

**CITY OF NEWTON  
PURCHASING DEPARTMENT**

***PROJECT FOR PUBLIC BUILDINGS DEPARTMENT***

**PROJECT MANUAL:**

**Bowen School Auditorium Roof Replacement  
*INVITATION FOR BID #12-14***

**Pre Bid Meeting Date: September 15, 2011 at 11:30 a.m.**

**Bid Opening Date: September 22, 2011 at 11:30 a.m.**

Plans and Specifications  
Prepared by:

*Habeeb & Associates, Architects, Inc.  
150 Longwater Drive  
Norwell, MA 02061*

**SEPTEMBER 2011**

**Setti D. Warren, Mayor**

**CITY OF NEWTON**  
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**CITY OF NEWTON  
PURCHASING DEPARTMENT  
INVITATION FOR BID #12-14**

The City of Newton invites sealed bids from Contractors for

**Bowen School Auditorium Roof Replacement**

**Pre-bid** will be held on site at: **11:30 a.m., September 15, 2011, 280 Cypress Street, Newton, MA**

**Bids** will be received until **11:30 a.m., September 22, 2011**

at the Purchasing Department, Room 204, Newton City Hall, 1000 Commonwealth Ave., Newton, MA 02459. Immediately following the deadline for General bids all bids received within the time specified will be publicly opened and read aloud.

Work under this contract shall consist of: Replacement of approximately 3,600 SF of cold process built-up roofing with gravel surfacing over tapered insulation and installation of metal wall/roofing panels at existing masonry walls. Estimated project value is 116,000. **Work is expected to be completed within 21 calendar days from Notice to Proceed.**

Contract Documents are available at [www.ci.newton.ma.us/bids](http://www.ci.newton.ma.us/bids) or pickup at Newton City Hall, Purchasing Office, 1000 Commonwealth Avenue, Newton Centre, MA 02459, on or after: **10:00 a.m., September 8, 2011.** There will be no charge for contract documents.

**All General Bids** must be accompanied by a copy of a "Certificate of Eligibility" (DCAM Form CQ-7) issued by the Department of Capital Asset Management and Maintenance (DCAM) and a "Contractor Update Statement" (DCAM Form CQ-3). The category of work for which the Bidder must be certified is: **Roofing**

Award will be made to the bidder with the lowest total contract price, including any accepted alternates, that has been deemed responsible and eligible. **All bids shall be submitted as one ORIGINAL and one COPY.**

All bids must be accompanied by a bid deposit in an amount that is not less than five percent (5%) of the value of the bid, including all add alternates. Bid deposits, payable to the City of Newton, shall be either in the form of a bid bond, or cash, or a certified check, or a treasurer's or cashier's check issued by a responsible bank or trust company.

All bids are subject to the provisions of M.G.L. Chapter 149, Section 44 A-J. **Wages are subject** to minimum wage rates determined by the Massachusetts Department of Labor and Industries pursuant to M.G.L. Chapter 149, Sec. 26 to 27H. The schedule of wage rates applicable to this contract is included in the bidding documents. In addition, the prevailing wage schedule will be updated annually for all public construction projects lasting longer than one (1) year. You will be required to pay the rates set out in any updated prevailing wage schedule. Increases in prevailing wage schedules will not be the basis for change order requests. The successful bidder will be required to provide a Certificate of Insurance demonstrating current coverage of the type and amounts set forth in the Project Manual. The successful bidder will be required to furnish a **Performance and Labor and Materials Payment Bond each in the amount of 100% of the contract total.**

Bidders attention is directed to the requirements of the City of Newton Supplemental Equal Employment Opportunity, Anti-Discrimination and Affirmative Action Program and also to the Minority/Women Business Enterprise Plan, December 1999, all of which are hereby incorporated into the Contract Documents. In the event of conflict between any of the above listed policies, the stricter policy shall apply.

City of Newton bid documents are available on the City's web site, [www.ci.newton.ma.us/bids](http://www.ci.newton.ma.us/bids). It is the sole responsibility of the contractor downloading these documents to ensure they have received any and all addenda prior to the bid opening. If you download bid documents from the internet site and would like to make it known that your company has done so, you may fax the Purchasing dept. (617) 796-1227 or email to [purchasing@newtonma.gov](mailto:purchasing@newtonma.gov) with your NAME, ADDRESS, PHONE, FAX AND INVITATION FOR BID NUMBER. Addenda's will be available online within the original bid document as well as a separate file.

The City of Newton will reject any and all bids when required to do so by the above referenced General Laws. In addition, the City of Newton reserves the right to waive any informalities in any or all bids, or to reject any or all bids (in whole or in part) if it be in the public interest to do so.

CITY OF NEWTON  
Rositha Durham  
Chief Procurement Officer  
September 8, 2011

**CITY OF NEWTON**  
**DEPARTMENT OF PURCHASING**  
**INSTRUCTIONS TO BIDDERS**

**ARTICLE 1 – BIDDER’S REPRESENTATION**

- 1.1. Each General Bidder (hereinafter called the “Bidder”) by making a bid (hereinafter called “bid”) represents that:
- 1.2. The Bidder has read and understands the Contract Documents and the bid is made in accordance therewith.
- 1.3. The Bidder has visited the site and is familiar with the local conditions under which the Work has to be performed.
- 1.4. Failure to so examine the Contract Documents and site will not relieve any Bidder from any obligation under the bid as submitted.

**ARTICLE 2 - REQUEST FOR INTERPRETATION**

- 2.1 Bidders shall promptly notify the City of any ambiguity, inconsistency, or error which they may discover upon examination of the Contract Documents, the site, and local conditions.
- 2.2 Bidders requiring clarification or interpretation of the Contract Documents shall make a written request to the *Chief Procurement Officer*, at [purchasing@newtonma.gov](mailto:purchasing@newtonma.gov) or via facsimile (617) 796-1227. The City will answer such requests if received Friday, September 16, 2011 at 12:00 noon.
- 2.3 Interpretation, correction, or change in the Contract Documents will be made by Addendum which will become part of the Contract Documents. The City will not be held accountable for any oral instruction.
- 2.4 Addenda will be emailed to every individual or firm on record as having taken a set of Contract Documents.
- 2.5 Copies of addenda will be made available for inspection at the location listed in the Invitation for Bids where Contract Documents are on file, in addition to being available online at [www.ci.newton.ma.us/bids](http://www.ci.newton.ma.us/bids).
- 2.6 Bidders or proposers contacting ANY CITY EMPLOYEE regarding an Invitation for Bid (IFB) or a Request for Proposal (RFP), outside of the Purchasing Department, once an IFB or RFP has been released, may be disqualified from the bidding process.
- 2.7 Bidders downloading information off the internet web site are solely responsible for obtaining any addenda prior to the bid opening. If the bidder makes themselves known to the Purchasing Dept., at [purchasing@newtonma.gov](mailto:purchasing@newtonma.gov) or via facsimile (617) 796-1227, they shall be placed on the bidder’s list. Bidders must provide the Purchasing Dept. with their company’s name, street address, city, state, zip, phone, fax, email address and **INVITATION FOR BID #12-14**.

**ARTICLE 3 – MBE/WBE PARTICIPATION**

- 3.1 Notice is hereby given that the Mayor’s Affirmative Action Plan for the City of Newton, dated December 1999 is applicable to all construction contracts in excess of \$10,000.00. A copy of this plan is on file at City of Newton Purchasing Department.
- 3.2 Notice is hereby given that the City of Newton Minority/Women Business Enterprise Plan dated December 1999 and the Supplemental Equal Employment Opportunity Anti-Discrimination and Affirmative Action Program is applicable to all City contracts for goods and services in excess of \$50,000.00. Copies of these plans are incorporated in the bidding documents.

- 3.3 Notice is hereby given that the Project is required to meet minimum SOWMBA guidelines in accordance with the statutory standards set forth in the Construction Reform Law, Chapter 193 of the Acts of 2004, and the revisions it made to MGL c. 23A, 44 and MGL c. 7, 40N.

#### ARTICLE 4 – PREPARATION AND SUBMISSION OF BIDS

- 4.1 Bids shall be submitted on the “Bid Form” as appropriate, furnished by the City.
- 4.2 All entries on the Bid Form shall be made by typewriter or in ink.
- 4.3 Where so indicated on the Bid Form, sums shall be expressed in both words and figures. Where there is a discrepancy between the bid sum expressed in words and the bid sum expressed in figures, the words shall control.
- 4.4 Bid Bonds shall be submitted in the amount specified in the Invitation for Bids. They shall be made payable to the City of Newton and shall be either in the form of cash, certified check, treasurer’s or cashier’s check issued by a responsible bank or trust company, or a bid bond issued by a surety licensed to do business in the Commonwealth of Massachusetts; and shall be conditioned upon the faithful performance by the principal of the agreements contained in the bid.
- Bid Bonds of the three (3) lowest responsible and eligible Bidders shall be retained until the execution and delivery of the Owner/Contractor agreement.
- 4.5 The Bid, including the bid deposit shall be enclosed in a sealed envelope with the following plainly marked on the outside: **GENERAL BID FOR:**
- NAME OF PROJECT AND INVITATION NUMBER**
- BIDDER’S NAME, BUSINESS ADDRESS, AND PHONE NUMBER**
- Date and time for receipt of bids is set forth in the Invitation for Bids.
- 4.6 Timely delivery of a bid at the location designated shall be the full responsibility of the Bidder.
- 4.7 Bids shall be submitted with one **original** and one **copy**.
- 4.8 Be advised that a new Massachusetts law has been enacted that required all employees who work on Massachusetts public works construction sites must have no less than 10 hours of OSHA-approved safety and health training. See Chapter 306 of the Acts of 2004, which will become effective July 1, 2006.
1. This requirement will apply to any general bid or sub bid submitted on or after July 1, 2006 and to any contract awarded on or after July 1, 2006.
  2. This law directs the Massachusetts Attorney General to restrain the award of construction contracts to any contractor who is in violation to this requirement and to restrain the performance of these contracts by non-complying contractors.
  3. The contractor and all subcontractors on this project will be required to provide certification of compliance with this requirement. Non-compliance with this new Massachusetts Law will disqualify you from bidding on public contracts.

#### ARTICLE 5 – ALTERNATES

- 5.1 Each Bidder shall acknowledge Alternates (if any) in Section C on the Bid Form.
- 5.2 In the event an Alternate does not involve a change in the amount of the base bid, the Bidder shall so indicated by writing “No Change”, or “N/C” or “0” in the space provided for that Alternate.
- 5.3 Bidders shall enter on the Bid Form a single amount for each Alternate which shall consist of the amount for work performed by the Contractor.
- 5.4 The low Bidder will be determined on the basis of the sum of the base bid and the accepted alternates.

## ARTICLE 6 – WITHDRAWAL OF BIDS

- 6.1 Any bid may be withdrawn prior to the time designated for receipt of bids on written or telegraphic request. Telegraphic withdrawal of bids must be confirmed over the Bidder's signature by written notice postmarked on or before the date and time set for receipt of bids.
- 6.2 Withdrawn bids may be resubmitted up to the time designated for the receipt of bids.
- 6.3 No bids shall be withdrawn within thirty days, Saturdays, Sundays and legal holidays excluded, after the opening of the bids.

## ARTICLE 7 – CONTRACT AWARD

- 7.1 The City of Newton will award the contract to the lowest eligible and responsible Bidder within thirty days, Saturdays, Sundays, and legal holidays excluded after the opening of bids.
- 7.2 The City of Newton reserves the right to waive any informalities in or to reject any or all Bids if it be in the public interest to do so.
- 7.3 As used herein, the term "lowest responsible and eligible Bidder" shall mean the Bidder (1) whose bid is the lowest of those bidders possessing the skill, ability and integrity necessary for the faithful performance of the work; (2) who shall certify that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work; (3) who, where the provisions of section eight B of chapter twenty-nine apply, shall have been determined to be qualified thereunder.
- 7.4 Subsequent to the award and within five (5) days, Saturday, Sundays and legal holidays excluded, after the prescribed forms are presented for signature, the successful Bidder shall execute and deliver to the City a Contract in the form included in the Contract Documents in such number of counterparts as the City may require.
- 7.5 In the event that the City receives low bids in identical amount from two or more responsive and responsible Bidders, the City shall select the successful Bidder by a blind selection process such as flipping a coin or drawing names from a hat. The low Bidders who are under consideration will be invited to attend and observe the selection process.

## ARTICLE 8 – TAXES

- 8.1 The Bidder shall not include in this bid any tax imposed upon the sale or rental of tangible personal property in this Commonwealth, such as any and all building materials, supplies, services and equipment required to complete the work.
- 8.2 The City is exempt from payment of the Massachusetts Sales Tax, and the Bidder shall not include any sales tax on its bid. The City's exemption Number is E-046-001-404.

**END OF SECTION**

**CITY OF NEWTON**

**PURCHASING DEPARTMENT**

**GENERAL BID FORM #12-14**

**Bowen School Auditorium Roof Replacement**

**TO THE AWARDING AUTHORITY:**

A. The undersigned proposes to furnish all labor and materials required for Bowen School Auditorium Roof Replacement in Newton, Massachusetts in accordance with the accompanying plans and specifications prepared by the City of Newton for the contract price specified below, subject to additions and deductions according to the terms of the specifications.

B. This bid includes addenda number(s) \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.

C. The Contractor shall insert prices for each item in ink, in both words and figures.

C.1 Base Bid: The proposed contract price is:

\_\_\_\_\_ DOLLARS (\$ \_\_\_\_\_)

C.2 Deduct Alternate No. 1: Delete Detail A1 on Drawing Sheet A-502 Roof Details and replace with Detail A2 on Drawing Sheet A-502 Roof Details. This alternate shall reuse the existing through wall flashing. The proposed price for Deduct Alternate No. 1 is:

\_\_\_\_\_ DOLLARS (\$ \_\_\_\_\_)

COMPANY: \_\_\_\_\_

D. The undersigned has completed and submits herewith the following documents:

- ☐ DCAM Certificate of Eligibility, Form CQ 7 (Supplied by Bidder)
- ☐ DCAM Update Statement, Form CQ-3, (Supplied by Bidder)
- ☐ Bid Form, 2 pages
- ☐ Original bid and one COPY
- ☐ Bidder's Qualifications and References Form, 2 pages
- ☐ Certificate of Non-Collusion, 1 page
- ☐ Five Percent (5%) Bid Surety

E. The undersigned agrees that each of the above named sub-bidders will be used for the work indicated at the amount stated, unless a substitution is made. The undersigned further agrees to pay the premiums for the performance and payment bonds furnished by sub-bidders as requested herein and that all of the cost of all such premiums is included in the amount set forth in Item 1 of this bid.

The undersigned agrees that if s/he is selected as general contractor, s/he will promptly confer with the awarding authority on the question of sub-bidders; and that the awarding authority may substitute for any sub-bid listed above a sub-bid filed with the awarding authority by another sub-bidder for the sub-trade against whose standing and ability the undersigned makes no objection; and that the undersigned will use all such finally selected sub-bidders at the amounts named in their respective sub-bids and be in every way as responsible for them and their work as if they had been originally named in this general bid, the total contract price being adjusted to conform thereto.



The undersigned agrees that, if s/he is selected as general contractor, s/he will within five days, Saturdays, Sundays and legal holidays excluded, after presentation thereof by the awarding authority, execute a contract in accordance with the terms of this bid and furnish a performance bond and also a labor and materials payment bond, each of a surety company qualified to do business under the laws of the commonwealth and satisfactory to the awarding authority and each in the sum of the contract price, the premiums for which are to be paid by the general contractor and are included in the contract price.

The undersigned hereby certifies that s/he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work and that s/he will comply fully with all laws and regulations applicable to awards made subject to section forty-four A of M.G.L. Chapter 30, s 39M.

The undersigned certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work; (2) that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration ("OSHA") that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and (3) that all employees to be employed in the work subject to this bid have successfully completed a course in construction safety and health approved by the United States OSHA that is at least 10 hours in duration. The undersigned understands that any employee found on a worksite subject to this section without documentation of successful completion of a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration shall be subject to immediate removal.

The undersigned further certifies that s/he intends to comply with the City of Newton Minority/Women Business Enterprise Plan, dated December 19, 1999 to further expand business opportunities for minority firms. Additionally, the Project is required to meet minimum SOWMBA guidelines in accordance with the statutory standards set forth in the Construction Reform Law, Chapter 193 of the Acts of 2004, and the revisions it made to MGL c. 23A, 44 and MGL c. 7, 40N.

The undersigned further certifies under the penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this subsection the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity. The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred from doing public construction work in the Commonwealth under the provisions of section twenty-nine F of chapter twenty-nine, or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder.

Date : \_\_\_\_\_

\_\_\_\_\_  
(Name of General Bidder)

BY: \_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Printed Name and Title of Signatory)

\_\_\_\_\_  
(Business Address)

\_\_\_\_\_  
(City, State Zip)

\_\_\_\_\_  
(Telephone) / (FAX)

\_\_\_\_\_  
(E-mail address)

**NOTE:** If the bidder is a corporation, indicate state of incorporation under signature, and affix corporate seal; if a partnership, give full names and residential addresses of all partners; and if an individual, give residential address if different from business address.

## CITY OF NEWTON

### BIDDER'S QUALIFICATIONS AND REFERENCES FORM

All questions must be answered, and the data given must be clear and comprehensive. Please type or print legibly. If necessary, add additional sheet for starred items. This information will be utilized by the City of Newton for purposes of determining bidder responsiveness and responsibility with regard to the requirements and specifications of the Contract.

1. FIRM NAME: \_\_\_\_\_
2. WHEN ORGANIZED: \_\_\_\_\_
3. INCORPORATED? \_\_\_\_ YES \_\_\_\_ NO DATE AND STATE OF INCORPORATION: \_\_\_\_\_
4. IS YOUR BUSINESS A MBE? \_\_\_\_ YES \_\_\_\_ NO WBE? \_\_\_\_ YES \_\_\_\_ NO or MWBE? \_\_\_\_ YES \_\_\_\_ NO
- \* 5. LIST ALL CONTRACTS CURRENTLY ON HAND, SHOWING CONTRACT AMOUNT AND ANTICIPATED DATE OF COMPLETION:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- \* 6. HAVE YOU EVER FAILED TO COMPLETE A CONTRACT AWARDED TO YOU?  
\_\_\_\_ YES \_\_\_\_ NO  
IF YES, WHERE AND WHY?  
\_\_\_\_\_  
\_\_\_\_\_
- \* 7. HAVE YOU EVER DEFAULTED ON A CONTRACT? \_\_\_\_ YES \_\_\_\_ NO  
IF YES, PROVIDE DETAILS.  
\_\_\_\_\_  
\_\_\_\_\_
- \* 8. LIST YOUR VEHICLES/EQUIPMENT AVAILABLE FOR THIS CONTRACT:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- \* 9. IN THE SPACES FOLLOWING, PROVIDE INFORMATION REGARDING CONTRACTS COMPLETED BY YOUR FIRM SIMILAR IN NATURE TO THE PROJECT BEING BID. A MINIMUM OF FOUR (4) CONTRACTS SHALL BE LISTED. PUBLICLY BID CONTRACTS ARE PREFERRED, BUT NOT MANDATORY.  
  
PROJECT NAME: \_\_\_\_\_  
OWNER: \_\_\_\_\_  
CITY/STATE: \_\_\_\_\_

DOLLAR AMOUNT: \$ \_\_\_\_\_ DATE COMPLETED: \_\_\_\_\_  
PUBLICLY BID? \_\_\_\_\_ YES \_\_\_\_\_ NO  
TYPE OF WORK?: \_\_\_\_\_  
CONTACT PERSON: \_\_\_\_\_ TELEPHONE #: (\_\_\_\_) \_\_\_\_\_  
CONTACT PERSON'S RELATION TO PROJECT?: \_\_\_\_\_  
(i.e., contract manager, purchasing agent, etc.)

PROJECT NAME: \_\_\_\_\_  
OWNER: \_\_\_\_\_  
CITY/STATE: \_\_\_\_\_  
DOLLAR AMOUNT: \$ \_\_\_\_\_ DATE COMPLETED: \_\_\_\_\_  
PUBLICLY BID? \_\_\_\_\_ YES \_\_\_\_\_ NO  
TYPE OF WORK?: \_\_\_\_\_  
CONTACT PERSON: \_\_\_\_\_ TELEPHONE #: (\_\_\_\_) \_\_\_\_\_  
CONTACT PERSON'S RELATION TO PROJECT?: \_\_\_\_\_  
(i.e., contract manager, purchasing agent, etc.)

PROJECT NAME: \_\_\_\_\_  
OWNER: \_\_\_\_\_  
CITY/STATE: \_\_\_\_\_  
DOLLAR AMOUNT: \$ \_\_\_\_\_ DATE COMPLETED: \_\_\_\_\_  
PUBLICLY BID? \_\_\_\_\_ YES \_\_\_\_\_ NO  
TYPE OF WORK?: \_\_\_\_\_  
CONTACT PERSON: \_\_\_\_\_ TELEPHONE #: (\_\_\_\_) \_\_\_\_\_  
CONTACT PERSON'S RELATION TO PROJECT?: \_\_\_\_\_  
(i.e., contract manager, purchasing agent, etc.)

PROJECT NAME: \_\_\_\_\_  
OWNER: \_\_\_\_\_  
CITY/STATE: \_\_\_\_\_  
DOLLAR AMOUNT: \$ \_\_\_\_\_ DATE COMPLETED: \_\_\_\_\_  
PUBLICLY BID? \_\_\_\_\_ YES \_\_\_\_\_ NO  
TYPE OF WORK?: \_\_\_\_\_  
CONTACT PERSON: \_\_\_\_\_ TELEPHONE #: (\_\_\_\_) \_\_\_\_\_  
CONTACT PERSON'S RELATION TO PROJECT?: \_\_\_\_\_  
(i.e., contract manager, purchasing agent, etc.)

10. The undersigned certifies that the information contained herein is complete and accurate and hereby authorizes and requests any person, firm, or corporation to furnish any information requested by the City of Newton in verification of the recitals comprising this statement of Bidder's qualifications and experience.

DATE: \_\_\_\_\_ BIDDER: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

PRINTED NAME: \_\_\_\_\_ TITLE: \_\_\_\_\_

**END OF SECTION**

## **CERTIFICATE OF NON-COLLUSION**

The undersigned certifies under penalties of perjury that this bid or proposal has been made and submitted in good faith and submitted in good faith and without collusion or fraud with any other person. As used in this certification, the word "person" shall mean any natural person, business, partnership, corporation, union, committee club, or other organization, entity, or group or individuals.

\_\_\_\_\_  
(Signature of individual)

\_\_\_\_\_  
Name of Business

## CONTRACT FORMS

The forms are provided for informational purposes only.

The awarded bidder will be required to complete and submit the following documents in order to execute a contract pursuant to this bid.

**None of the following forms are required at the time of bid submittal.**

# OWNER-CONTRACTOR CONTRACT

CONTRACT NO. C \_\_\_\_\_

THIS AGREEMENT made this \_\_\_\_ day of \_\_\_\_\_ in the year Two Thousand and Eleven by and between the CITY OF NEWTON, a municipal corporation organized and existing under the laws of the Commonwealth of Massachusetts, hereinafter referred to as the CITY, acting through its Chief Procurement Officer, but without personal liability to him, and

hereinafter referred to as the CONTRACTOR.

WITNESSETH, that the parties hereto for the consideration hereinafter set forth agree as follows:

**ARTICLE 1. STATEMENT OF WORK.** The Contractor shall furnish all labor, materials, equipment and insurance, and perform all work required in strict accordance with the Project Manual entitled:

## **Bowen School Auditorium Roof Replacement**

hereinafter referred to as the SPECIFICATIONS, and the Addenda thereto numbered \_\_\_\_\_, and all the Drawings referred to therein.

The said Specifications, Addenda and Drawings are incorporated herein by reference and are made a part hereof.

**ARTICLE 2. TIME OF COMPLETION.** The Contractor shall commence work under this Contract on the date specified in the written notice of the City to proceed and shall fully complete all work hereunder within the time (21 calendar days) stated elsewhere in the contract documents.

**ARTICLE 3. THE CONTRACT PRICE.** The City shall pay the Contractor pursuant to and in accordance with the provisions set forth in the Contract Documents, subject to additions and deductions in accordance with the terms of the Specifications, for the full and satisfactory performance of the Contract the sum of:

**ARTICLE 4. CONTRACT DOCUMENTS.** The Contract shall consist of the following component parts, copies of which are attached hereto:

- a. The City's Invitation for Bid #12-14 issued by its Purchasing Department;
- b. Project Manual for Bowen School Auditorium Roof Replacement;
- c. Addenda Numbers \_\_\_\_ to the above referenced Project Manual and/or Plans;
- d. The bid of \_\_\_\_\_ dated \_\_\_\_\_ and signed by \_\_\_\_\_, including the Bid Form and Bidder's Qualifications Form and References
- e. Attestation/Certification

This Contract Form, together with the other documents enumerated in this Article 4 form the Contract.

**ARTICLE 5. ALTERNATES.** The following Alternates have been accepted and their costs are included in the Contract Price stated in Article 3 of this Agreement:

Alternates: N/A.

**ARTICLE 6. APPLICABLE STATUTES.** All applicable federal, state and local laws and regulations are incorporated herein by reference and the Contractor agrees to comply with same.

IN WITNESS WHEREOF, the parties have caused this instrument to be executed under seal the day and year first above written.

**CONTRACTOR**

**CITY OF NEWTON**

By \_\_\_\_\_  
Title \_\_\_\_\_  
Date \_\_\_\_\_

By \_\_\_\_\_  
*Chief Procurement Officer*  
Date \_\_\_\_\_

*Affix Corporate Seal Here*

By \_\_\_\_\_  
*Commissioner of Public Buildings*  
Date \_\_\_\_\_

City funds in the amount of \$ \_\_\_\_\_  
are available in account number  
**31NB4115902-5825**

Approved as to Legal Form and  
Character

By \_\_\_\_\_  
*Associate City Solicitor*  
Date \_\_\_\_\_

I further certify that the Mayor, or his  
designee, is authorized to execute contracts and  
approve change orders

By \_\_\_\_\_  
*Comptroller of Accounts*  
Date \_\_\_\_\_

**CONTRACT AND BONDS APPROVED**

By \_\_\_\_\_  
*Mayor or his designee*  
Date \_\_\_\_\_

## CERTIFICATE OF AUTHORITY – CORPORATE

1. I hereby certify that I am the Clerk/Secretary of \_\_\_\_\_  
(insert full name of Corporation)
2. corporation, and that \_\_\_\_\_  
(insert the name of officer who signed the **contract and bonds.**)
3. is the duly elected \_\_\_\_\_  
(insert the title of the officer in line 2)
4. of said corporation, and that on \_\_\_\_\_  
(insert a date that is ***ON OR BEFORE*** the date the officer signed the **contract and bonds.**)

at a duly authorized meeting of the Board of Directors of said corporation, at which all the directors were present or waived notice, it was voted that

5. \_\_\_\_\_ the \_\_\_\_\_  
(insert **name** from line 2) (insert **title** from line 3)

of this corporation be and hereby is authorized to execute contracts and bonds in the name and on behalf of said corporation, and affix its Corporate Seal thereto, and such execution of any contract of obligation in this corporation's name and on its behalf, with or without the Corporate Seal, shall be valid and binding upon this corporation; and that the above vote has not been amended or rescinded and remains in full force and effect as of the date set forth below.

6. ATTEST: \_\_\_\_\_  
(Signature of Clerk or Secretary)\* *AFFIX CORPORATE SEAL HERE*
7. Name: \_\_\_\_\_  
(Please print or type name in line 6)\*
8. Date: \_\_\_\_\_  
(insert a date that is ***ON OR AFTER*** the date the officer signed the **contract and bonds.**)

\*The name and signature inserted in lines 6 & 7 **must** be that of the **Clerk or Secretary** of the corporation.



## ATTESTATION

Pursuant to MG c. 62C, § 49A, the undersigned acting on behalf of the Contractor, certifies under the penalties of perjury that, to the best of the undersigns knowledge and belief, the Contractor is in compliance with all laws of the Commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support.\*

\_\_\_\_\_  
\*\*Signature of Individual  
or Corporate Contractor (Mandatory)

\_\_\_\_\_  
\*\*\* Contractor's Social Security Number  
(Voluntary) or Federal Identification Number

By: \_\_\_\_\_  
Corporate Officer  
(Mandatory, if applicable)

Date: \_\_\_\_\_

\* The provision in the Attestation relating to child support applies only when the Contractor is an individual.

\*\* Approval of a contract or other agreement will not be granted unless the applicant signs this certification clause.

\*\*\* Your social security number will be furnished to the Massachusetts Department of Revenue to determine whether you have met tax filing or tax payment obligations. Providers who fail to correct their non-filing or delinquency will not have a contract or other agreement issued, renewed, or extended. This request is made under the authority of GL c. 62C, § 49A.

**CITY OF NEWTON, MASSACHUSETTS**

**PERFORMANCE BOND**

Know All Men By These Presents:

That we, \_\_\_\_\_, as PRINCIPAL, and \_\_\_\_\_, as SURETY, are held and firmly bound unto the City of Newton as Obligee, in the sum of \_\_\_\_\_ dollars (\$ \_\_\_\_\_) to be paid to the Obligee, for which payments well and truly to be made, we bind ourselves, our respective heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

Whereas, the said PRINCIPAL has made a contract with the Obligee, bearing the date of \_\_\_\_\_, 2011, for the construction of \_\_\_\_\_ in Newton, Massachusetts.

(Project Title)

Now, the condition of this obligation is such that if the PRINCIPAL and all Sub-contractors under said contract shall well and truly keep and perform all the undertakings, covenants, agreements, terms and conditions of said contract on its part to be kept and performed during the original term of said contract and any extensions thereof that may be granted by the Obligee, with or without notice to the SURETY, and during the life and any guarantee required under the contract, and shall also well and truly keep and perform all the undertakings, covenants, agreements, terms and conditions of any and all duly authorized modifications, alterations, changes or additions to said contract that may hereafter be made, notice to the SURETY of such modifications, alterations, changes or additions being hereby waived, then this obligation shall become null and void; otherwise, it shall remain in full force, virtue and effect.

In the event, that the contract is abandoned by the PRINCIPAL, or in the event that the Obligee terminates the employment of the PRINCIPAL or the authority of the PRINCIPAL to continue the work said SURETY hereby further agrees that said SURETY shall, if requested in writing by the Obligee, take such action as is necessary to complete said contract.

In Witness Whereof, the PRINCIPAL and SURETY have hereto set their hands and seals this \_\_\_\_ day of \_\_\_\_\_ 2011.

PRINCIPAL

SURETY

\_\_\_\_\_

\_\_\_\_\_

BY \_\_\_\_\_

BY \_\_\_\_\_

(SEAL)

(ATTORNEY-IN-FACT) (SEAL)

\_\_\_\_\_

(Title)

ATTEST: \_\_\_\_\_

ATTEST: \_\_\_\_\_

**CITY OF NEWTON, MASSACHUSETTS**

**PAYMENT BOND**

Know All Men By These Presents:

That we, \_\_\_\_\_, as PRINCIPAL, and \_\_\_\_\_, as SURETY, are held and firmly bound unto the City of Newton as Obligee, in the sum of \_\_\_\_\_ dollars (\$ \_\_\_\_\_) to be paid to the Obligee, for which payments well and truly to be made, we bind ourselves, our respective heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

Whereas, the said PRINCIPAL has made a contract with the Obligee, bearing the date of \_\_\_\_\_, 2011, for the construction of \_\_\_\_\_ in Newton, Massachusetts.  
(Project Title)

Now, the conditions of this obligation are such that if the PRINCIPAL and all Sub-contractors under said contract shall pay for all labor performed or furnished and for all materials used or employed in said contract and in any and all duly authorized modifications, alterations, extensions of time, changes or additions to said contract that may hereafter be made, notice to the SURETY of such modifications, alterations, extensions of time, changes or additions being hereby waived, the foregoing to include any other purposes or items set out in, and to be subject to, provisions of M.G.L. c. 30, sec. 39A, and M.G.L. c. 149 sec. 29, as amended, then this obligation shall become null and void; otherwise it shall remain in full force, virtue and effect.

In Witness Whereof, the PRINCIPAL and SURETY have hereto set their hands and seals this \_\_\_\_ day of \_\_\_\_\_ 2011.

PRINCIPAL

SURETY

\_\_\_\_\_

\_\_\_\_\_

BY \_\_\_\_\_

BY \_\_\_\_\_

(SEAL)

(ATTORNEY-IN-FACT) (SEAL)

\_\_\_\_\_

(Title)

ATTEST: \_\_\_\_\_

ATTEST: \_\_\_\_\_

**GENERAL CONDITIONS  
OF THE CONTRACT  
FOR NON-TECHNICAL SERVICES**

The City of Newton, herein referred to as the City, does hereby establish the following General Conditions, applicable to this Invitation for Bids and any subsequent purchase order, work order, work order or contract resulting therefrom.

**1.0 SCOPE OF SERVICES**

- 1.1 The Contractor agrees to furnish all labor, materials, equipment and insurance necessary to perform and fully complete, in every respect, within the time frame herein specified, all work (hereinafter referred as the Services) described in the Project Manual.
- 1.2 The Contractor shall not make any changes in the scope of Services without the prior written consent of the City. The Contractor shall make reasonable revisions or corrections, within the scope of Services, to any work performed until submitted in a form acceptable to the City.
- 1.3 The City reserves the right to alter, add to or reduce the Services by delivering to the Contractor written notice specifying the nature and extent of such alteration, addition or reduction. Such notice shall be effective upon the later of actual receipt by the Contractor or upon the date given in such notice. No addition to the Services shall be made unless the City and the Contractor have agreed to such increase in writing.

**2.0 CONTRACT TERM**

- 2.1 The obligations of the Contractor identified herein shall commence upon execution of the City-Contractor Contract and shall continue in full force and effect for the duration of the contract term as identified in the Project Manual. The contractor shall commence the performance of services under this contract promptly upon receipt of the City's Notice to Proceed in accordance with the provisions identified in the Project Manual.
- 2.2 In the event the term of this contract exceeds a period of one year and notwithstanding any provision to the contrary herein, the City shall cancel this contract in the event that funds are not appropriated or otherwise made available to support continuation of performance by the Contractor in any fiscal year succeeding the first year.

**3.0 EXECUTION**

- 3.1 All work required hereunder shall be performed as promptly as possible, and in any event within the time herein set forth, and such work shall be subject to approval and acceptance by the City, but such approval and acceptance shall not relieve the Contractor from the obligation to correct any incomplete, inaccurate or defective work, all of which shall be promptly remedied by the Contractor on demand, without cost to the City. The Contractor shall obtain all the required licenses and permits for the work herein described.
- 3.2 The Contractor shall conform to all determinations and directions of the City concerning the Contractor's delivery of services in the event of inclement weather, equipment failure, picket lines on City property, or labor strikes by the contractor's employees.

**4.0 COMPENSATION**

- 4.1 The City shall pay the Contractor for services rendered under this contract in accordance with the amount(s) set forth in the Contractor's General Bid Form and pursuant to the provisions contained in the Project Manual.
- 4.2 Notwithstanding anything to the contrary contained in the Contract, the City may withhold any payment to the Contractor hereunder if and for so long as the Contractor fails to perform any of its obligations hereunder or otherwise is in default under this Contract including, without limitation, any failure to perform Services in full accordance with the amount sufficient in the reasonable opinion of the City to cure any such default or failure of performance by the Contractor.

- 4.3 In no event shall the City be required to pay any amounts for work deemed by it to be unacceptable, or which are otherwise disputed. In the event the City disputes any such amounts invoiced, it shall pay all amounts not in dispute and notify the Contractor in writing of the amounts disputed and the reasons therefor.
- 4.4 No payment made shall constitute or be construed as final acceptance or approval of that part of the Services to which payment relates, or relieve the Contractor of any of its obligations outlined in this Contract. Further, the City shall not be deemed, by virtue of making payments to the Contractor hereunder, to have released the Contractor from any claim or liability, or to have waived any action arising out of the breach of this Contract by the Contractor.

## 5.0 REPORTS AND DRAWINGS

When the Contractor has been paid for the Services performed by him or her, all reports, drawings, and other material furnished to the City shall become the City's property and may be used by the City (or such parties as the City may designate) thereafter in such manner and for such purposes as the City (or such parties as the City may designate) may deem advisable, without further employment of or additional compensation to the Contractor. The Contractor shall not release or disclose any report, drawing, or other material furnished to the Contractor by the City in connection with the performance of the Contractor's Services

## 6.0 CONTRACTOR'S ACCOUNTING RECORDS

The Contractor shall keep records pertaining to Services performed (including complete and detailed time records) on the basis of recognized bookkeeping practices, generally accepted accounting principles, and in accordance with such reasonable requirements to facilitate audit as the City may provide. All records shall be available to the City or its authorized representatives for review and audit during normal business hours.

## 7.0 ASSIGNMENT/SUBCONTRACTING

The Contractor agrees that he will not sell, assign or transfer this Contract or any part thereof or interest therein without the prior written consent of the City.

## 8.0 REMEDY FOR DEFAULT

If the Contractor, in the sole judgment of the City, shall violate or fail properly to comply with or perform in any material respect any condition, provision, or warranty hereof, the City shall have the right by prior written notice to the Contractor to have the services called for hereby otherwise performed, and/or to terminate this contract without prejudice to any other rights or remedies of the City under this contract. The Contractor shall pay any excess in the City's cost to so procure the services and any related goods, supplies, materials or equipment. In addition, and without limiting any other remedies available to the City, the Contractor shall be liable for all losses, costs and expenses incurred by the City which result from the Contractor's noncompliance.

## 9.0 SUSPENSION OR TERMINATION

- 9.1 The City shall have the right, upon seven (7) days written notice to the Contractor so stating, to terminate, suspend, or postpone this contract in whole or in part for any reason deemed by the City to be in the public interest. Any such termination, suspension, or postponement shall not give rise to any cause of action for damages against the City. In the event that the City postpones or suspends the Services, the Contractor's time for performance of the Services shall be extended for a period equal to the period of such postponement or suspension. In the event of termination, suspension or postponement, the City shall pay: (a) for services and any related goods, supplies, materials and equipment furnished up to the time of termination, suspension, or postponement at the contract price upon delivery; (b) for work in process in the amount of the Contractor's cost, determined in accordance with ordinary accepted accounting practices, up to the time of termination, suspension, or postponement; and (c) for raw materials purchased by the Contractor as of the date of termination, suspension, or postponement and which are noncancelable at the Contractor's actual cost plus reasonable handling charges, but only to the extent that such raw materials were purchased in reliance upon this contract and are useful solely with respect to this contract.

- 9.2 Upon receipt of a notice of termination, suspension, or postponement the Contractor shall immediately cease all work hereunder and cancel all orders placed with respect to this contract. The Contractor's failure to so cancel shall relieve the City of the obligations of paragraph 10.1 above.
- 9.3 The City may postpone, suspend or terminate the Services immediately, by notice, hand delivery or certified mail, if the Contractor violates any of the provisions of this Contract, or fails to perform or observe any of the terms, covenants or conditions of this Contract, or abandons in whole or in part its Services, or becomes unable to perform its Services.
- 9.4 In the event of termination of this Contract, the Contractor shall promptly deliver to the City all documents, work papers, calculations, computer programs, data, drawings, plans, and other tangible work product, or materials pertaining to the Services performed under this Contract to the time of termination.

## 10.0 NOTICE

Any action, notice or request required to be taken, given or made by City or the Contractor hereunder may be taken, given or made only by those persons identified for that purpose on the Contract Form. All notices required to be given hereunder shall be deemed properly given if personally delivered, or if mailed by registered or certified mail, postage prepaid addressed to the address and officer identified on the Contract Form.

## 11.0 PROTECTION OF PROPERTY

The Contractor shall take all reasonable precautions to prevent damage to property, visible and concealed, and shall restore to substantially the same condition existing prior to the Contractor's entry any disturbance or damage to property caused by the Contractor or any person acting under its control.

## 12.0 INSURANCE REQUIREMENTS

- 12.1 The Contractor shall provide insurance coverage as listed below. This insurance shall be provided at the Contractor's expense and shall be in full force and effect during the full term of this Contract.

### WORKER'S COMPENSATION

Worker's Compensation: Per M.G.L. c.. 149, s. 34 and c.. 152 as amended.

### GENERAL LIABILITY

Personal Injury	\$1,000,000 each occurrence
	\$3,000,000 aggregate
Property Damage	\$1,000,000 each occurrence
	\$3,000,000 aggregate

### VEHICLE LIABILITY

Personal Injury	\$1,000,000 each person
	\$1,000,000 aggregate
Property Damage	\$1,000,000

- 12.2 **The City shall be named as additional insureds on the Contractor's Liability Policies.**

- 12.3 The Contractor shall not commence the work until proof of compliance with this Section 13.0 has been furnished to the City by submitting one copy of a properly endorsed insurance certificate issued by a company authorized to write insurance in the Commonwealth. This certificate shall indicate that the contractual liability coverage is in force.
- 12.4 The Contractor shall file the original and one certified copy of all policies with the City within fifteen (15) days after contract award. If the City is damaged by the Contractor's failure to maintain such insurance and to so notify the City, then the Contractor shall be responsible for all reasonable costs attributable thereto.
- 12.5 Cancellation of any insurance required by this contract, whether by the insurer or the insured, shall not be valid unless written notice thereof is given by the party proposing cancellation to the other party and City at least thirty days prior to the effective date thereof, which shall be expressed in said notice.

## 13.0 CONFLICT OF INTEREST

No member, agent or employee of the City shall , during his/her tenure or one year thereafter directly or indirectly, have any interest in any property to be included in, or any contract for property, materials or services to be furnished or used in connection with, this contract or the proceeds thereof.

#### 14.0 COMPLIANCE WITH LAWS

All work to be performed and wages paid under this specification shall be in accordance with all applicable laws, state or federal, and all applicable ordinances, codes, rules, and regulations of the City of Newton, or any public board or office having any jurisdiction, regulation or control over any work to be done hereunder, including minimum wage rates. In particular, without limitation, the Contractor agrees to comply with all regulations pertaining to approvals for federal and state grants, and with all federal and state environmental laws and regulations. The Contractor agrees to assist in making any submissions to federal or state agencies as may be required in order to meet the requirements in this paragraph.

#### 15.0 INDEMNIFICATION

The Contractor agrees to indemnify and save the City harmless from and against any and all costs, losses, expenses, liabilities, damages or claims for damages, including reasonable attorney's fees and expenses, on account of any injury or damage to buildings, improvements, or property of the City or on account of any injury (including death) or damage to any person, persons, firm, corporation or association, or on account of any infringement or claim of infringement of patents, arising out of or resulting from the deliveries provided for or performed under this contract or from any act, omission or negligence of the contractor, his agents, employees, or assigns. The foregoing provisions shall not be deemed to be released, waived or modified in any respect by reason of any surety or insurance provided by the contractor under contract.

#### 16.0 FORCE MAJEURE

The City may not hold the Contractor liable for any loss, expense or damage incurred by the City on account of failure of the Contractor to deliver services as specified herein, if that failure is caused by state of war, acts of enemies, expropriation or confiscation of facilities used by the Contractor, or compliance with any law, order, or regulation of any federal, state or municipal governmental authority, if the Contractor shall show that such compliance would impair this ability to perform a material provision of this contract, the Contractor having given the City reasonable notice of such cause.

#### 17.0 DISPUTES

All claims, disputes and other matters in question between the City and the Contractor arising out of or relating to this Contract or the breach of it, shall be submitted for resolution to a court of competent jurisdiction in Massachusetts, unless otherwise agreed by the parties. No such action shall be brought, however, until the completion of all Services under this Contract or the earlier termination of this Contract as provided herein, the parties agreeing to negotiate any claims, disputes or other matters in question during the term of this Contract before resorting to litigation. As to all acts or failures to act by either party to this Contract, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all events when the other party becomes aware or should have been aware of such acts or failure to act.

#### 18.0 GOVERNING LAW

This contract shall be governed by and construed in accordance with Massachusetts Law.

#### 19.0 LIABILITY

The Contractor is retained solely for the purpose of and to the extent set forth in this Contract. The Contractor's relationship to the City for the purpose of services to be performed under this Contract shall be that of an independent contractor. The Contractor shall have no capacity or authority to involve the City in any contract or to incur any liability on behalf of the City. In no event shall the City be held liable as an employer or otherwise for any personal injury to or death of the Contractor's principals, employees, agents and/or representatives occasioned by or resulting from the Contractor's performance under this Contract.

20.0 LIENS

The Contractor shall cause to be removed from the property of the City any liens or other claims asserted by any person or entity claiming through or under the Contractor and arising out of Services performed under this Contract by such third party.

21.0 SEVERABILITY

In the event that any portion of this Contract is held illegal or unenforceable by a court of competent jurisdiction, the parties agree that such invalidity shall not affect the validity of the remaining portions of this Contract and Contractor and the City agree to substitute for the invalid provision a valid provision which most closely approximates the economics and intent of the invalid provision.

**END OF SECTION**



**PUBLIC BUILDING MAINTENANCE CONTRACT  
SUPPLEMENTAL CONDITIONS  
COMMONWEALTH OF MASSACHUSETTS & CITY OF NEWTON**

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## SPECIAL CONDITIONS - COMMONWEALTH OF MASSACHUSETTS

### Article I. METHOD OF PAYING SUBCONTRACTORS

(General Laws, Chapter 30, Section 39F as most recently amended by Chapter 450, §76 of the Acts of 1996)

(1.) Every contract awarded pursuant to section forty-four A to L, inclusive, of chapter one hundred and forty-nine shall contain the following subparagraphs (a) through (i) and every contract awarded pursuant to section thirty-nine M of chapter thirty shall contain the following subparagraphs (a) through (h) and in each case those subparagraphs shall be binding between the general contractor and each subcontractor.

(a) Forthwith after the general contractor receives payment on account of a periodic estimate, the general contractor shall pay to each subcontractor the amount paid for the labor performed and the materials furnished by the subcontractor, less any amount specified in any court proceedings barring such payment and also less any amount claimed due from the subcontractor by the general contractor.

(b) Not later than the sixty-fifth day after each subcontractor substantially completes his work in accordance with the plans and specifications, the entire balance due under the subcontract less amounts retained by the awarding authority as the estimated cost of completing the incomplete and unsatisfactory items of work, shall be due the subcontractor; and the awarding authority shall pay that amount to the general contractor. The general contractor shall forthwith pay to the subcontractor the full amount received from the awarding authority less any amount specified in any court proceedings barring such payment and also less any amount claimed due from the subcontractor by the general contractor.

(c) Each payment made by the awarding authority to the general contractor pursuant to subparagraphs (a) and (b) of this paragraph for the labor performed and the materials furnished by a subcontractor shall be made to the general contractor for the account of that subcontractor, and the awarding authority shall take reasonable steps to compel the general contractor to make each such payment to each such subcontractor. If the awarding authority has received a demand for direct payment from a subcontractor for any amount which has already been included in a payment to the general contractor or which is to be included in a payment to the general contractor for payment to the subcontractor as provided in subparagraphs (a) and (b), the awarding authority shall act upon the demand as provided in this section.

(d) If, within seventy days after the subcontractor has substantially completed the subcontract work, the subcontractor has not received from the general contractor the balance due under the subcontract including any amount due for extra labor and materials furnished to the general contractor, less any amount retained by the awarding authority as the estimated cost of completing the incomplete and unsatisfactory items of work, the subcontractor may demand direct payment of the balance from the awarding authority. The demand shall be by a sworn statement delivered to or sent by certified mail to the awarding authority, and a copy shall be delivered to or sent by certified mail to the general contractor at the same time. The demand shall contain a detailed breakdown of the balance due under the subcontract and also a statement of the status of completion of the subcontract work. Any demand made after substantial completion of the subcontract work shall be valid even if delivered or mailed prior to the seventieth day after the subcontractor has substantially completed the subcontract work. Within ten days after the subcontractor has delivered or so mailed the demand to the awarding authority and delivered or so mailed a copy to the general contractor, the general contractor may reply to the demand. The reply shall be by a sworn statement delivered to or sent by certified mail to the awarding authority and a copy shall be delivered to or sent by certified mail to the subcontractor at the same time. The reply shall contain a detailed breakdown of the balance due under the subcontract including any amount due for extra labor and materials furnished to the general contractor and of the amount due for each claim made by the general contractor against the subcontractor.

(e) Within fifteen days after receipt of the demand by the awarding authority, but in no event prior to the seventieth day after substantial completion of the subcontract work, the awarding authority shall make direct payment to the subcontractor of the balance due under the subcontract including any amount due for extra labor and materials furnished to the general contractor, less any amount (i) retained by the awarding authority as the estimated cost of completing the incomplete or unsatisfactory items of work, (ii) specified in any court proceedings barring such payment, or (iii) disputed by the general contractor in the sworn reply; provided, that the awarding authority shall not deduct from a direct payment any amount as provided in part (iii) if the reply is not sworn to, or for which the sworn reply does not contain the detailed breakdown required by subparagraph (d). The awarding authority shall make further direct payments to the subcontractor forthwith after the removal of the basis for deductions from direct payments made as provided in parts (i) and (ii) of this subparagraph.

(f) The awarding authority shall forthwith deposit the amount deducted from a direct payment as provided in part (iii) of subparagraph (e) in an interest-bearing joint account in the names of the general contractor and the subcontractor in a bank in Massachusetts selected by the awarding authority or agreed upon by the general contractor and the subcontractor and shall notify the general contractor and the subcontractor of the date of the deposit and the bank receiving the deposit. The bank shall pay the

amount in the account, including accrued interest, as provided in an agreement between the general contractor and the subcontractor or as determined by a decree of a court of competent jurisdiction.

(g) All direct payments and all deductions from demands for direct payments deposited in an interest-bearing account for accounts in a bank pursuant to subparagraph (f) shall be made out of amounts payable to the general contractor at the time of receipt of a demand for direct payment from a subcontractor and out of amounts which later become payable to the general contractor and in the order of receipt of such demands from subcontractors. All direct payments shall discharge the obligation of the awarding authority to the general contractor to the extent of the such payment.

(h) The awarding authority shall deduct from payments to a general contractor amounts which, together with the deposits in interest-bearing accounts pursuant to subparagraph (f), are sufficient to satisfy all unpaid balances of demands for direct payment received from subcontractors. All such amounts shall be earmarked for such direct payments, and the subcontractors shall have a right in such deductions prior to any claims against such amounts by creditors of the general contractor.

(i) If the subcontractor does not receive payment as provided in subparagraph (a) or if the general contractor does not submit a periodic estimate for the value of the labor or materials performed or furnished by the subcontractor and the subcontractor does not receive payment for same when due less the deductions provided for in subparagraph (a), the subcontractor may demand direct payment by following the procedure in subparagraph (d) and the general contractor may file a sworn reply as provided in that same subparagraph. A demand made after the first day of the month following that for which the subcontractor performed or furnished the labor and materials for which the subcontractor seeks payment shall be valid even if delivered or mailed prior to the time payment was due on a periodic estimate from the general contractor. Thereafter the awarding authority shall proceed as provided in subparagraph (e), (f), (g) and (h).

## **Article 2. METHOD OF PAYING GENERAL CONTRACTORS**

**(General Laws, Chapter 30, Section 39K as most recently amended by Chapter 145 of the Acts of 1991 and Chapter 151 of the Acts of 1993.)**

Every contract for the construction, reconstruction, alteration, remodeling, repair or demolition of any public building by the commonwealth, or by any county, city, town, district, board, commission or other public body, when the amount is more than five thousand dollars in the case of the commonwealth and more than two thousand dollars in the case of any county, city, town, district, board, commission or other public body, shall contain the following paragraph:--Within fifteen days (forty-five days in the case of the commonwealth, including local housing authorities) after receipt from the contractor, at the place designated by the awarding authority if such a place is so designated, of a periodic estimate requesting payment of the amount due for the preceding month, the awarding authority will make a periodic payment to the contractor for the work performed during the preceding month and for the materials not incorporated in the work but delivered and suitably stored at the site (or at some location agreed upon in writing) to which the contractor has title or to which a subcontractor has title and has authorized the contractor to transfer title to the awarding authority, less (1) a retention based on its estimate of the fair value of its claims against the contractor and less (2) a retention for direct payments to subcontractors based on demands for same in accordance with the provisions of section thirty-nine F, and less (3) a retention not exceeding five per cent of the approved amount of the periodic payment. After the receipt of a periodic estimate requesting final payment and within sixty-five days after (a) the contractor fully completes the work or substantially completes the work so that the value of the work remaining to be done is, in the estimate of the awarding authority, less than one per cent of the original contract price, or (b) the contractor substantially completes the work and the awarding authority takes possession for occupancy, whichever occurs first, the awarding authority shall pay the contractor the entire balance due on the contract less (1) a retention based on its estimate of the fair value of its claims against the contractor and of the cost of completing the incomplete and unsatisfactory items of work and less (2) a retention for direct payments to subcontractors based on demands for same in accordance with the provisions of section thirty-nine F, or based on the record of payments by the contractor to the subcontractors under this contract if such record of payment indicates that the contractor has not paid subcontractors as provided in section thirty-nine F. If the awarding authority fails to make payment as herein provided, there shall be added to each such payment daily interest at the rate of three percentage points above the rediscount rate then charged by the Federal Reserve Bank of Boston commencing on the first day after said payment is due and continuing until the payment is delivered or mailed to the contractor; provided, that no interest shall be due, in any event, on the amount due on a periodic estimate for final payment until fifteen days (twenty-four days in the case of the commonwealth) after receipt of such a periodic estimate from the contractor, at the place designated by the awarding authority if such a place is so designated. The contractor agrees to pay to each subcontractor a portion of any such interest paid in accordance with the amount due each subcontractor.

The awarding authority may make changes in any periodic estimate submitted by the contractor and the payment due on said periodic estimate shall be computed in accordance with the changes so made, but such changes or any requirement for a corrected periodic estimate shall not affect the due date for the periodic payment or the date for the commencement of interest charges on the amount of the periodic payment computed in accordance with the changes made, as provided herein; provided, that the awarding authority may, within seven days after receipt, return to the contractor for correction, any periodic estimate which is not in the

required form or which contains computations not arithmetically correct and, in that event, the date of receipt of such periodic estimate shall be the date of receipt of the corrected periodic estimate in proper form and with arithmetically correct computations. The date of receipt of a periodic estimate received on a Saturday shall be the first working day thereafter. The provisions of section thirty-nine G shall not apply to any contract for the construction, reconstruction, alteration, remodeling, repair or demolition of any public building to which this section applies.

All periodic estimates shall be submitted to the awarding authority, or to its designee as set forth in writing to the contractor, and the date of receipt by the awarding authority or its designee shall be marked on the estimate. All periodic estimates shall contain a separate item for each filed subtrade and each sub-subtrade listed in sub-bid form as required by specifications and a column listing the amount paid to each subcontractor and sub-subcontractor as of the date the periodic estimate is filed. The person making payment for the awarding authority shall add the daily interest provided for herein to each payment for each day beyond the due date based on the date of receipt marked on the estimate.

A certificate of the architect to the effect that the contractor has fully or substantially completed the work shall, subject to the provisions of section thirty-nine J, be conclusive for the purposes of this section.

### **Article 3. CLAIMS FOR UNFORESEEN CONDITIONS**

**(General Laws, Chapter 30, Section 39N as most recently amended by Chapter 774 of the Acts of 1972)**

Every contract subject to section forty-four A of chapter one hundred and forty-nine or subject to section thirty-nine M of chapter thirty shall contain the following paragraph in its entirety and an awarding authority may adopt reasonable rules or regulations in conformity with that paragraph concerning the filing, investigation and settlement of such claims:

If, during the progress of the work, the contractor or the awarding authority discovers that the actual subsurface or latent physical conditions encountered at the site differ substantially or materially from those shown on the plans or indicated in the contract documents either the contractor or the contracting authority may request an equitable adjustment in the contract price of the contract applying to work affected by the differing site conditions. A request for such an adjustment shall be in writing and shall be delivered by the party making such claim to the other party as soon as possible after such conditions are discovered. Upon receipt of such a claim from a contractor, or upon its own initiative, the contracting authority shall make an investigation of such physical conditions, and, if they differ substantially or materially from those shown on the plans or indicated in the contract documents or from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the plans and contract documents and are of such a nature as to cause an increase or decrease in the cost of performance of the work or a change in the construction methods required for the performance of the work which results in an increase or decrease in the cost of the work, the contracting authority shall make an equitable adjustment in the contract price and the contract shall be modified in writing accordingly.

### **Article 4. CLAIMS FOR DELAY**

**(General Laws, Chapter 30, Section 39O as added by Chapter 116 of the Acts of 1973)**

Every contract subject to the provisions of section thirty-nine M of this chapter or subject to section forty-four A of chapter one hundred forty-nine shall contain the following provisions (a) and (b) in their entirety and, in the event a suspension, delay, interruption or failure to act of the awarding authority increases the cost of performance to any subcontractor, that subcontractor shall have the same rights against the general contractor for payment for an increase in the cost of his performance as provisions (a) and (b) give the general contractor against the awarding authority, but nothing in provisions (a) and (b) shall in any way change, modify or alter any other rights which the general contractor or the subcontractor may have against each other.

(a) The awarding authority may order the general contractor in writing to suspend, delay, or interrupt all or any part of the work for such period of time as it may determine to be appropriate for the convenience of the awarding authority; provided however, that if there is a suspension, delay or interruption for fifteen days or more or due to a failure of the awarding authority to act within the time specified in this contract, the awarding authority shall make an adjustment in the contract price for any increase in the cost of performance of this contract but shall not include any profit to the general contractor on such increase; and provided further, that the awarding authority shall not make any adjustment in the contract price under this provision for any suspension, delay, interruption or failure to act to the extent that such is due to any cause for which this contract provides for an equitable adjustment of the contract price under any other contract provisions.

(b) The general contractor must submit the amount of a claim under provision (a) to the awarding authority in writing, as soon as practicable after the end of the suspension, delay, interruption or failure to act and, in any event, not later than the date of final payment under this contract and, except for costs due to a suspension order, the awarding authority shall not approve any costs in the claim incurred more than twenty days before the general contractor notified the awarding authority in writing of the act of failure to act involved in the claim.

## **Article 5. DECISIONS AND APPROVALS BY ENGINEER OR ARCHITECT**

**(General Laws, Chapter 30, Section 39P, as added by Chapter 1164 of the Acts of 1973)**

Every contract subject to section thirty-nine M of this chapter or section forty-four A of chapter one hundred forty-nine which requires the awarding authority, any official, its architect or engineer to make a decision on interpretation of the specifications, approval of equipment, material or any other approval, or progress of the work, shall require that the decision be made promptly and, in any event, no later than thirty days after the written submission for decision; but if such decision requires extended investigation and study, the awarding authority, the official, architect or engineer shall, within thirty days after the receipt of the submission, give the party making the submission written notice of the reasons why the decision cannot be made within the thirty day period and the date by which the decision will be made.

## **Article 6. PREFERENCE IN EMPLOYMENT, WAGES**

**(General Laws, Chapter 149 Section 26 as most recently amended by Chapter 665 of the Acts of 1986 and Chapter 552 of the Acts of 1991).**

In the employment of mechanics and apprentices, teamsters, chauffeurs and laborers in the construction of public works by the commonwealth, or by a county, town or district, or by persons contracting or subcontracting for such works, preference shall first be given to citizens of the commonwealth who have been residents of the commonwealth for at least six months at the commencement of their employment who are male veterans as defined in clause Forty-third of section seven of chapter four, and who are qualified to perform the work to which the employment relates; and secondly, to citizens of the commonwealth generally who have been residents of the commonwealth for at least six months at the commencement of their employment, and if they cannot be obtained in sufficient numbers, then to citizens of the United States, and every contract for such work shall contain a provision to this effect. Each county, town or district in the construction of public works, or persons contracting or subcontracting for such works, shall give preference to veterans and citizens who are residents of such county, town or district. The rate per hour of the wages paid to said mechanics and apprentices, teamsters, chauffeurs and laborers in the construction of public works shall not be less than the rate or rates of wages to be determined by the commissioner as hereinafter provided; provided, that the wages paid to laborers employed on said works shall not be less than those paid to laborers in the municipal service of the town or towns where said works are being constructed; provided, further, that where the same public work is to be constructed in two or more towns, the wages paid to laborers shall not be less than those paid to laborers in the municipal service of the town paying the highest rate; provided, further, that if, in any of the towns where the works are to be constructed, a wage rate or wage rates have been established in certain trades and occupations by collective agreements or understandings in the private construction industry between organized labor and employers, the rate or rates to be paid on said works shall not be less than the rates so established, provided, further that in towns where no such rate or rates have been so established, the wages paid to mechanics and apprentices, teamster, chauffeurs and laborers on public works, shall not be less than the wages paid to the employees in the same trades and occupations by private employers engaged in the construction industry. This section shall also apply to regular employees of the commonwealth or of a county, town or district, when such employees are employed in the construction, addition to or alteration of public buildings for which special appropriation of more than One Thousand Dollars are provided. Payments by employers to health and welfare plans, pension plans and supplementary unemployment benefit plans under collective bargaining agreements or understandings between organized labor and employers shall be included for the purpose of establishing minimum wage rates as herein provided.

## **Article 7. HOURS OF WORK**

**(General Laws, Chapter 149 Section 34 as most recently amended by Chapter 552 of the Acts of 1991).**

Every contract, except for the purchase of material or supplies, involving the employment of laborers, workmen, mechanics, foremen or inspectors, to which the commonwealth or any county or town, subject to section thirty, is a party, shall contain a stipulation that no laborer, workman, mechanic, foreman or inspector working within the commonwealth, in the employ of the contractor, subcontractor or other person doing or contracting to do the whole or a part of the work contemplated by the contract, shall be required or permitted to work more than eight hours in any one day or more than forty-eight hours in any one week, or more than six days in any one week, except in case of emergency, or, in case any town subject to section thirty-one is a party to such a contract, more than eight hours in any one day, except as aforesaid, provided, that in contracts entered into by the department of highways for the construction or reconstruction of highways there may be inserted in said stipulation a provision that said department, or any contractor or subcontractor for said department, may employ laborers, workmen, mechanics, foremen and inspectors for more than eight hours in any one day in such construction or reconstruction when, in the opinion of the commissioner of labor and industries, public necessity so requires. Every such contract not containing the aforesaid stipulation shall be null and void.

## **Article 8. WORK BY FOREIGN CORPORATIONS**

**(General Laws, Chapter 30 Section 39L, as most recently amended by Chapter 3 of the Acts of 1967).**

The Commonwealth and every county, city, town, district, board, commission or other public body which, as the awarding authority, requests proposals, bids or subbids for any work in the construction, reconstruction, alteration, remodeling, repair or demolition of any public building or other public works (1) shall not enter into a contract for such work with, and shall not approve as a subcontractor furnishing labor and materials for a part of any such work, a foreign corporation which has not filed with such awarding authority a certificate of the state secretary stating that such corporation has complied with sections three and five of chapter one hundred and eighty-one and the date of such compliance, and (2) shall report to the state secretary and to the department of corporations and taxation any foreign corporation performing work under such contract or subcontract, and any person, other than a corporation, performing work under such contract or subcontract, and residing or having a principal place of business outside the Commonwealth.

**END OF SUPPLEMENTAL CONDITIONS**

# BUILDING MAINTENANCE SERVICE CONTRACT

## SPECIAL CONDITIONS

The following provisions supplement the General Conditions of the Contract for Non-Technical Services. In the event of conflict or discrepancy between the General Conditions and these Special Conditions, the provisions of the Special Conditions shall govern.

### 1.0 SUMMARY OF WORK

- A. The Work under the Contract consists of:
  - 1. Furnishing all labor, materials, tools, equipment and supervision necessary to accomplish the work described herein, in accordance with all specifications and requirements of the Project Manual.
  - 2. All work either shown on the Drawings (if any) or included in the specifications unless specifically indicated as not to be done.
- B. In addition, the work under the Contract includes:
  - 1. Work outside the Project Site as called for in the Contract Documents and as required for the performance of the Work.
  - 2. The restoration of any items damaged or destroyed by encroaching upon areas outside the Project Site.
  - 3. Providing and restoring, where appropriate, all temporary facilities.
- C. The Proposed Contract Price shall be complete costs, including overhead, profit, insurance, transportation, and all other costs connected with, or incidental to, the work described.

### 2.0 PROJECT SITE

- A. The areas of work for this contract shall be various buildings within the City of Newton as specified on Work Orders to be issued from time to time during the term of this Contract.

### 3.0 NOTICE TO PROCEED/FAILURE TO COMMENCE WORK

- A. From time to time during the term of this Contract, the Contractor shall be issued notice to proceed in the form of a written Work Order issued by the Public Building Department listing specific work items to be performed in accordance with this Contract. The Contractor shall commence performance of the work within the time specified in the Work Order, and in no event within less than the time limits stated in the Work Specifications contained in the Project Manual.
- B. In the event the contractor fails to commence performance within the specified time, and/or notifies the City of its inability to do so, the City shall call upon the second Contractor awarded pursuant to this bid (if any) to perform the required work.
- C. In the event the second Contractor awarded pursuant to this bid is unable to commence performance within the required time, or if there is no second Contractor, the City reserves the right to contract for the work on the open market at the then prevailing rate and to deduct from any monies due or that may thereafter become due to the contractor the difference between the price stated for the work in the contract and the actual cost thereof to the City.
- D. In the event of Contractor's repeated failure to commence work within the time required by these specifications, the City shall exercise all provisions contained in the General Conditions regarding default, suspension or termination of this contract.

#### 4.0 PAYMENT

- A. Once each month, on a date established by the City, the Contractor may submit an Application for Payment (Invoice) for the work performed during the preceeding month. The Contractor may invoice for all Work Orders completed and accepted during the preceeding month, and for all Work Orders either partially completed or not yet accepted by the City.
- B. Upon receipt of the Application for Payment, the City will, within fifteen days, make payment in full for all Work Orders completed and accepted during the preceeding month. For Work Orders partially completed or not yet accepted, the City will make payment for the value of the Work Order completed during the preceeding month, less a retainage of 5% of the estimated total of the Work Order. The City will make final payment for partially completed Work Orders, including any retained amounts, upon completion and acceptance of the work and receipt of an Application for Payment at the end of the month in which the work is completed and accepted.

#### 5.0 COMMUNICATIONS

- A. All notices, demands, requests, instructions, approvals and claims must be in writing.
- B. Any such notice shall be deemed to have been given as of the time of delivery, or of actual receipt in the case of telegrams or, in the case of mailing, when it should have been received in due course of post.
- C. For communicating purposes, the office address of the Contractor shall be that stated on the signature page of the contract; that of the City shall be as stated in the Invitation for Bids. Any subsequent change in address of either party shall be communicated to the other in writing.

#### 6.0 PLANS AND SPECIFICATIONS

- A. The City will furnish to the Contractor, without charge, all copies of the specifications reasonably necessary in the performance of the contract work.

#### 7.0 COORDINATION

The Contractor shall:

- A. Supply to the City the name and telephone number of a responsible person who may be contacted during off-hour emergencies during the term of the Contract.
- B. Cooperate at all times with the City and the Project Manager, and ensure the cooperation of his key personnel and that of his subcontractors.

#### 8.0 CONDUCT OF THE WORK

- A. The work must be completed in a continuous uninterrupted operation. The Contractor must use sufficient workforce and adequate equipment to complete all the necessary work requirements within a minimum period of time.
- B. The work shall be conducted between the hours of 8:00 a.m. and 5:00 p.m. on Monday through Friday. No work shall be done on holidays, Saturdays or Sundays except as specifically requested and authorized by the City.
- C. Under no circumstances will the contractor be paid at a premium or overtime rate for any work performed without the express advance authorization of the City.
- D. The Contractor is responsible for the security of partially completed work until the project is finally accepted by the City.

#### 9.0 ALTERATION

- A. The Contractor shall patch, repair and/or replace all existing materials and surfaces remaining exposed after installation of new work which have been affected by alteration or removal of existing work. All patch and repair work shall match existing.

#### 10.0 GENERAL DIRECTIONS



A. Damage to Persons and Property

Any damage to buildings, roads, public roads, bituminous concrete areas, fences, lawn areas, trees, shrubbery, electric or telephone poles, underground utilities, etc., shall be repaired by the Contractor at his own expense. Damaged property shall be returned to its original condition prior to the damages within a reasonable time period, except all utility outages shall be repaired immediately.

B. Protection of Persons and Property

The Contractor shall, at all times, leave an unobstructed way along the roadways and walks, and shall maintain barriers and lights for the protection of all persons and property in all locations where he has materials stored or work going on, and during the entire time such work is going on or material is stored.

C. Shutdown of Services

The Contractor's attention is especially called to the fact that continuous operation of building utilities and services is mandatory. During the period of construction of the new work and/or alterations to the existing work, the progress and sequence of installation shall be carefully planned and approved by the City. If any building is to be left without heat, hot water, city water, electricity, gas, sanitary facilities, or any other services, the Contractor shall provide reasonable written notice to the City before proceeding.

D. Care of Work

All work is to be carefully protected so that no injury will come to it from water, frost, accident, or any other cause and any injury which may come to any of the work shall be repaired immediately by the Contractor at his own expense and without additional cost to the City. This shall also apply to any abutting or adjoining work on premises. The Contractor shall be responsible for any damage and in the event of such damage, the Contractor shall repair the damage immediately at his own cost and without additional cost to the City.

E. Removal of Debris

Debris of any nature shall be completely removed from the site at the end of each days work and disposed of in accordance with all Federal, State and local regulations.

F. The Contractor is responsible for the security of all work until it is accepted by the City.

11.0 TEMPORARY UTILITIES

- A. Prior to execution of the Work, the Contractor shall confer with a representative of the Public Building Department regarding the use of utilities and facilities at the worksite. No City utilities or facilities are to be used by the Contractor in the performance of this Contract without the prior approval of the City.

12.0 SUBMISSION OF PAYROLLS

- A. The Contractor shall, with each invoice submitted during the term of this Contract, submit to the City two (2) legible copies of his payrolls documenting the wages paid to all employees performing on site labor relating to the work of this Contract. These copies shall be prepared on forms supplied by the City.

13.0 DRAWINGS (IF APPLICABLE)

- A. The drawings attached herein and such drawings as may be issued per addendum, shall constitute an integral part of this section and shall serve as the working drawings.
- B. Drawings shall not be scaled. Field verification is directed since actual locations, dimensions and levels are existing.
- C. All items not specifically mentioned in the specifications or noted on the drawings, but which are obviously necessary to make a complete working installation, shall be included.

14.0 MATERIALS

- A. Unless specifically so stated to the contrary the use of a manufacturer's name or style number is not restrictive, and is intended solely as an identification of the type and quality of the materials and services required. In all cases, the words "or approved equal" if not inserted are implied.
- B. An item equal to that named or described in the specifications may upon written approval of the City be furnished by the Contractor. An item shall be considered equal to the item so named or described if (1) it is at least equal in quality, durability, appearance, strength and design; (2) it will perform at least equally the function imposed by the general design for the public work being contracted for or the material being purchased; (3) it conforms substantially, even with deviations, to the detailed requirements for the item in the specifications.
- C. The name and identification of all materials other than the one specifically named shall be submitted to the City in writing for approval, prior to purchase, use or fabrication of such items. Approval shall be at the sole discretion of the City, shall be in writing to be effective, and the decision of the City shall be final. The City may require tests of all materials so submitted to establish quality standards at the Contractor's expense.
- D. For the use of material other than the one specified, the Contractor shall assume the cost of and responsibility for satisfactorily accomplishing all changes that may be required in the work as shown. All directions, specifications and recommendations by manufacturers for the installation, handling, storing, adjustment, and operation of their equipment shall be complied with and responsibility for proper performance shall continue to rest with the Contractor.
- E. The Contractor shall not have any right of appeal from the decision of the City condemning any materials furnished if the Contractor fails to obtain the approval for substitution in accordance with these provisions. If any substitutuin is more costly, the Contracotr shall pay for such costs

#### 15.0 WARRANTY AND INDEMNIFICATION

- A. In addition to other guarantees or warranties required under law or other sections of the specification, the Contractor warrants all materials furnished and labor performed under this Contract to be free from defects or errors in workmanship or installation for a period of one year from the date of Completion of the work, as certified by the Project Manager. The Contractor shall indemnify the Authority for the full cost of any damage to the property that may result by reason of such defects or errors and shall indemnify the Authority from and against any and all claims, demands, losses, costs, expenses, liabilities and damages, including reasonable attorney's fees and expenses, arising out of or on account of this Contract, including but not limited to claims brought against the Authority for alleged infringement of patents based upon any methods of construction or application of materials furnished under the Contract.
- B. The Contractor shall indemnify, hold harmless and defend the City and its departments, officers, employees, servants, and agents from and against all actions, causes of actions, claims, demands, damages, costs, loss of services, expenses and compensation, including attorney's fees and interest arising out of or resulting directly or indirectly from the services rendered pursuant to this Contract, provided that any such action, cause of action, claim, demand, damage, cost, loss of service, expense, compensation (1) in any way grows out of bodily injury, sickness, disease or death, or to injury to or destruction of tangible property, which (2) is caused in whole or in part by any act or omission of the Contractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder.

#### END OF SECTION

## **Appendix A to General Conditions of the Contract**

### **GOALS FOR PARTICIPATION BY MINORITY BUSINESS ENTERPRISES (MBE) AND WOMEN BUSINESS ENTERPRISES (WBE) (EXECUTIVE ORDER 390, M.G.L. c. 7, s. 4, M.G.L. c. 7, s. 40N)**

**The applicable goals for minority business enterprise (MBE) and woman business enterprise (WBE) participation established for this Contract are as follows:**

**MBE: 7.4 % of the Contract Price. WBE: 4 % of the Contract Price.**

#### **1. Goals**

The goals for minority business enterprise (MBE) and woman business enterprise (WBE) participation established for this Contract are as set forth above and in the Owner - Contractor Agreement.

#### **2. MBE/WBE Participation Credit**

- A. If the Contractor is itself an MBE or a WBE, MBE/WBE participation credit shall be given in an amount equal to the entire Contract Price. If the Contractor is not an MBE or WBE, then MBE/WBE participation credit will be given for the value of the Work that is actually performed by each MBE or WBE subcontractor or sub-subcontractor.
- B. If the Contractor is a joint venture with one or more MBE/WBE joint ventures, MBE/WBE participation credit shall be given to the joint venture as follows:
  - (1) If the joint venture is certified by SOMWBA as an MBE or WBE, MBE/WBE Participation credit shall be given in an amount equal to the entire Contract Price.
  - (2) If the joint venture is not certified as an MBE or WBE by SOMWBA, MBE/WBE participation credit shall be given to the joint venture for the value of the Work that is performed by the MBE/WBE joint venture(s), and for the value of the Work that is actually performed by each MBE or WBE subcontractor or sub-subcontractor.
- C. If an MBE/WBE supplies, but does not install equipment or materials, MBE/WBE participation credit shall be given only if the MBE/WBE supplier is regularly engaged in sales of equipment or supplies to the construction industry from an established place of business. MBE/WBE participation credit shall be given the full amount of the purchase order only if the MBE/WBE supplier manufactures the goods or substantially alters them before resale. Otherwise, a contractor may count toward its MBE/WBE goal 60 percent of the total bid price for its expenditures of its materials and supplies required under a contract and obtained from a MBE/WBE regular supplier.
- D. MBE participation credit shall be given for the work performed by MBEs only, and WBE participation credit shall be given for the work performed by WBEs only. MBE participation may not be substituted for WBE participation, nor may WBE participation be substituted for MBE participation.

#### **3. Establishing MBE/WBE Status.**

- A. A minority owned business shall be considered as an MBE only if it has been certified as a minority business enterprise by the State Office of Minority and Women Business Assistance ("SOMWBA").
- B. A woman owned business shall be considered as a WBE only if it has been certified as a woman business enterprise by SOMWBA.
- C. Certification as a disadvantaged business enterprise ("DBE"), certification as MBE/WBE by any agency other than SOMWBA, or submission of an application to SOMWBA for certification as an MBE/WBE shall not confer MBE/WBE status on a firm for the purposes of this Contract.

#### **4. Subcontracts with MBE/WBEs**

Within thirty (30) days after the award of this Contract, the Contractor shall (i) execute a subcontract with each MBE/WBE Subcontractor which has executed a Letter of Intent approved by the Awarding Authority, (ii) cause its Subcontractors to execute a sub-subcontract with each MBE/WBE sub-subcontractor, and (iii) furnish the Awarding Authority with a signed copy of each such subcontract and sub-subcontract.

**5. Performance of Contract Work by MBE/WBEs**

- A. The Contractor shall not perform with its own organization or subcontract or assign to any other firm work designated to be performed by any MBE/WBE in the Letters of Intent or Schedule of MBE/WBE Participation without the prior Approval of the Awarding Authority, nor shall any MBE/WBE assign or subcontract to any other firm, or permit any other firm to perform any of its MBE/WBE Work without the prior Approval of the Awarding Authority. Any such unapproved assignment, subcontracting, sub-subcontracting, or performances of MBE/WBE Work by others shall be a change in the MBE/WBE Work for the purposes of this Contract. **THE AWARDING AUTHORITY WILL NOT APPLY TO THE MBE/WBE PARTICIPATION GOAL(S) ANY SUMS ATTRIBUTABLE TO SUCH UNAPPROVED ASSIGNMENTS, SUB-CONTRACTS, SUB-SUBCONTRACTS, OR PERFORMANCE OF MBE/WBE WORK BY OTHERS.**
- B. The Contractor shall be responsible for monitoring the performance of MBE/WBE Work to ensure that each scheduled MBE/WBE performs its own MBE/WBE Work with its own workforce.
- C. The Contractor and each MBE/WBE shall provide the Awarding Authority with all information and documentation that the Awarding Authority determines is necessary to ascertain whether or not an MBE/WBE has performed its own MBE/WBE Work. At the discretion of the Awarding Authority, failure to submit such documentation to the Awarding Authority shall establish conclusively for the purpose of giving MBE/WBE participation credit under this Contract that such MBE/WBE did not perform such work.
- D. With each progress payment request submitted by the Contractor to the Awarding Authority, the Contractor must provide the Contractor Progress Payment Report indicating the value of payments for each MBE and WBE firms for that period.

**6. Notification of Changes in MBE/WBE Work**

- A. If at any time during the performance of the Contract the Contractor determines or has reason to believe that a scheduled MBE/WBE is unable or unwilling to perform its MBE/WBE Work, or that there has been or will be a change in any MBE/WBE Work, or that the Contractor will be unable to meet the MBE/WBE participation goal(s) for this Contract for any reason, the Contractor shall immediately notify the Awarding Authority Contract Compliance Office in writing of such circumstances.
- B. Any notice of a change in MBE/WBE Work pursuant to subparagraph "A" above shall include a revised Schedule of MBE/WBE Participation, and additional or amended Letters of Intent and subcontracts, as the case may be.

**7. Actions Required if there is a Reduction in MBE/WBE Participation**

- A. In the event there is a change or reduction in any MBE/WBE Work which will result in the Contractor failing to meet the MBE/WBE participation goal(s) for this Contract, other than a reduction in MBE/WBE Work resulting from a Change Order initiated by the Awarding Authority, then the Contractor shall immediately undertake a diligent, good faith effort to make up the shortfall in MBE/WBE participation as follows:
  - (1) The Contractor shall identify all items of the Work remaining to be performed under the Contract that may be made available for subcontracting to MBE/WBEs. The Contractor shall send a list of such items of work to the Awarding Authority, together with a list of the remaining items of the Work that was not made available to MBE/WBEs and the reason for not making such work available for subcontracting to MBE/WBEs.
  - (2) The Contractor shall send written notices soliciting proposals to perform the items of the Work that may be made available for subcontracting to MBE/WBEs to all MBE/WBEs qualified to perform such work. The Contractor shall advise the Awarding Authority of (i) each MBE/WBE solicited, and (ii) each MBE/WBE listed in the SOMWBA directory under the applicable trade category that was not solicited and the reasons therefore. The Contractor shall also advise the Awarding Authority of the dates notices were mailed and provide a copy of the written notice(s) sent.

- (3) The Contractor shall make reasonable efforts to follow up the written notices sent to MBE/WBEs with telephone calls or personal visits in order to determine with certainty whether the MBE/WBEs were interested in performing the work. Phone logs or other documentation must be submitted to the Awarding Authority evidencing this effort.
  - (4) The Contractor shall make reasonable efforts to assist MBE/WBEs that need assistance in obtaining insurance, bonds, or lines of credit in order to perform work under the Contract, and shall provide the Awarding Authority with evidence that such efforts were made.
  - (5) The Contractor shall provide the Awarding Authority with a statement of the response received from each MBE/WBE solicited, including the reason for rejecting any MBE/WBE who submitted a proposal.
  - (6) The Contractor shall take any additional measures reasonably requested by the Awarding Authority to meet the MBE/WBE participation goal(s) established for this Contract, including, without limitation, placing advertisements in appropriate media and trade association publications announcing the Contractor's interest in obtaining proposals from MBE/WBEs, and/or sending written notification to MBE/WBE economic development assistance agencies, trade groups and other organizations notifying them of the project and of the work available to be subcontracted by the Contractor to MBE/WBEs.
- B. If the Contractor is unable to meet the MBE/WBE participation goals for this Contract after complying fully with each of the requirements of paragraph "A" above, and the Contractor is otherwise in full compliance with the terms of this Article, the Awarding Authority may reduce the MBE/WBE participation goals for this Contract to the extent that such goals cannot be achieved.

#### **8. Suspension of Payment and/or Performance for Noncompliance.**

- A. If at any time during the performance of this Contract, the Awarding Authority determines or has reason to believe that (1) there has been a change or reduction in any MBE/WBE Work which will result in the Contractor failing to meet the MBE/WBE participation goal(s) for this Contract, other than a reduction in MBE/WBE Work resulting from a change in the Contract work ordered by the Awarding Authority, and (2) the Contractor has failed to comply fully with all of the terms and conditions of paragraphs 1 through 7 above, the Awarding Authority may:
- (1) Suspend payment to the Contractor of an amount equal to the value of the work which was to have been performed by an MBE/WBE pursuant to the Contractor's Schedule of MBE/WBE Participation but which was not so performed, in order to ensure that sufficient Contract funds will be available if liquidated damages are assessed pursuant to paragraph 9, and/or
  - (2) Suspend the Contractor's performance of this Contract in whole or in part.
- B. The Awarding Authority shall give the Contractor prompt written notice of any action taken pursuant to paragraph A above and shall give the Contractor and any other interested party, including any MBE/WBEs, an opportunity to present evidence to the Awarding Authority that the Contractor is in compliance with the requirements of this Article, or that there is some justifiable reason for waiving the requirements of this Article in whole or in part. The Awarding Authority may invite SOMWBA to participate in any proceedings undertaken pursuant to this paragraph.
- C. Upon a showing that the Contractor is in full compliance with the requirements of this Article, or that the Contractor has met or will meet the MBE/WBE participation goals for this Contract, the Awarding Authority shall release any funds withheld pursuant to clause A (1) above, and lift any suspension of the Contractor's performance under clause A (2) above.

#### **9. Liquidated Damages; Termination**

- A. If payment by the Awarding Authority or performance by the Contractor is suspended by the Awarding Authority as provided in paragraph 8 above, the Awarding Authority shall have the following rights and remedies if the Contractor thereafter fails to take all action necessary to bring the Contractor into full compliance with the requirements of this Article, or if full compliance is no longer possible because the default of the Contractor is no longer susceptible to cure, if the Contractor fails to take such other action as may be required by the Awarding Authority to meet the MBE/WBE participation goals set forth in this Contract:
- (1) The Awarding Authority may terminate this Contract, and/or
  - (2) The Awarding Authority may retain from final payment to the Contractor, as liquidated damages, an amount equal to the difference between:

(a) The total of the MBE/WBE participation goals set forth in this Contract, and;

(b) The amount of MBE/WBE participation credit earned by the Contractor for MBE/WBE Work performed under this Contract as determined by the Awarding Authority, the parties agreeing that the damages for failure to meet the MBE/WBE participation goals are difficult to determine and that the foregoing amount to be retained by the Awarding Authority represents the parties' best estimate of such damages. Any liquidated damages will be assessed separately for MBE and WBE participation.

B. Before exercising its rights and remedies hereunder, the Awarding Authority may give the Contractor and any other interested party another opportunity to present evidence to the Awarding Authority that the Contractor is in compliance with the requirements of this Article or that there is some justifiable reason for waiving the requirements of this Article in whole or in part. The Awarding Authority may invite SOMWBA to participate in any proceedings undertaken hereunder.

#### **10. Reporting Requirements**

The Contractor shall submit to the Awarding Authority all information or documentation that is necessary in the judgment of the Awarding Authority to ascertain whether or not the Contractor has complied with any of the provisions of this Article.

#### **11. Awarding Authority's Right to Waive Provisions of this Article in Whole or In Part**

The Awarding Authority reserves the right to waive any provision or requirement of this Article if the Awarding Authority determines that such waiver is justified and in the public interest. No such waiver shall be effective unless in writing and signed by a representative of the Awarding Authority's Affirmative Marketing Construction Officer (AMCO) or the office of its General Counsel. No other action or inaction by the Awarding Authority shall be construed as a waiver of any provision of this Article.

#### **Attachments**

Exhibit A:	Schedule for Participation
Exhibit B:	Letter of Intent
Exhibit C:	Contractor Progress Payment Report

**EXHIBIT A  
SCHEDULE FOR PARTICIPATION  
BY MINORITY/WOMEN BUSINESS ENTERPRISES  
NEWTON, MASSACHUSETTS**

**Project Name: Bowen School Auditorium Roof Replacement**  
**Project Location: 280 Cypress Street, Newton, Massachusetts**

- A. Filed Sub-bidders utilizing MBE/WBE firms, and MBE/WBE Sub-bidders - attach to Filed Sub-bid.**  
**B. General Contractor must submit to the Awarding Authority within five (5) working days of the opening of General Bids.**

**BIDDER CERTIFICATION:**

The Bidder / General Contractor agrees that if awarded the contract it will expend at least the amount of the contract set forth below for MBE/WBE participation. For purposes of this commitment, the MBE and WBE designation means that a business has been certified by SOMWBA as either a MBE, WBE or MBE/WBE. The Bidder / General Contractor must indicate the MBE/WBE firms it intends to utilize on the project as follows (attach additional sheets if necessary):

Company Name & Address	MBE or WBE	Describe MBE/WBE Scopes of Work (clarify "Labor Only", "Material Only" or "Labor and Material")	If Supplier, Indicate Total Value of Supplies (60% of Total Counts toward Participation)	Total Dollar Value of Participation
1.				
2.				
3.				
4.				
5.				

MBE Goal: \$ \_\_\_\_\_

Total Dollar Value of MBE Commitment: \$ \_\_\_\_\_

WBE Goal: \$ \_\_\_\_\_

Total Dollar Value of WBE Commitment: \$ \_\_\_\_\_

The undersigned hereby certifies that he/she has read the terms and conditions of the contract with regard to MBE/WBE participation and is authorized to bind the undersigned firm to the commitment set forth above.

Name of Firm \_\_\_\_\_

Authorized Signature \_\_\_\_\_

Business Address \_\_\_\_\_

Print Name \_\_\_\_\_

\_\_\_\_\_

Title \_\_\_\_\_

Telephone No. \_\_\_\_\_ Fax No. \_\_\_\_\_

Date \_\_\_\_\_

**EXHIBIT B**  
**LETTER OF INTENT**  
**MINORITY/WOMEN BUSINESS ENTERPRISES PARTICIPATION**  
**NEWTON, MASSACHUSETTS**

(To be completed by MBE/WBE firms, and submitted by the General Bidder to the Awarding Authority's Affirmative Marketing Construction Officer (AMCO) within five (5) working days of the opening of General Bids or by Filed Sub-bidder with its bid.)

**Project Name: Bowen School Auditorium Roof Replacement**

**Project Location: 280 Cypress Street, Newton, Massachusetts**

**To:** \_\_\_\_\_

**Name of General Bidder/Sub-bidder**

**Indicate SOMWBA Certification:**

\_\_\_\_\_ **MBE**

\_\_\_\_\_ **WBE**

\_\_\_\_\_ **M/WBE**

1. This firm intends to perform work in connection with the above project.
2. This firm is currently certified by SOMWBA to perform the work identified below, and has not changed its minority/women ownership, control, or management without notifying SOMWBA within thirty (30) days of such a change.
3. This firm understands that if the General Bidder/Sub-bidder referenced above is awarded the Contract, the Bidder intends to enter into an agreement with this firm to perform the activity described below for the prices indicated. This firm also understands that the above-referenced firm, as General Bidder/Sub-Bidder, will make substitutions only as allowed by the terms of the Contract.
4. This firm understands that under the terms of the Contract, only work actually performed by an MBE/WBE will be credited toward MBE/WBE participation goals, and this firm cannot assign or subcontract out any of its work without prior written approval of the Awarding Authority, and that any such assignment or subcontracting will not be credited toward MBE/WBE participation goals.

**MBE/WBE PARTICIPATION**

<b>Section/Item Number (If Applicable)</b>	<b>Describe MBE/WBE Scopes of Work (Clarify "Labor Only", "Material Only" or "Labor and Material")</b>	<b>If Supplier, Indicate Total Value of Supplies (60% of Total Counts Toward Participation)</b>	<b>Dollar Value of Participation</b>

Total Dollar Value: \$ \_\_\_\_\_

Name of MBE/WBE Firm \_\_\_\_\_ Authorized Signature \_\_\_\_\_

Business Address \_\_\_\_\_ Print Name \_\_\_\_\_

\_\_\_\_\_ Title \_\_\_\_\_

Telephone No. \_\_\_\_\_ Fax No. \_\_\_\_\_ Date \_\_\_\_\_



**EXHIBIT C**  
**CONTRACTOR PROGRESS PAYMENT REPORT**  
**MINORITY/WOMEN BUSINESS ENTERPRISES PARTICIPATION**  
**NEWTON, MASSACHUSETTS**

**Project Name:** Bowen School Auditorium Roof Replacement

**Project Location:** 280 Cypress Street, Newton , Massachusetts

**Date:** \_\_\_\_\_

**Periodical Payment No.:** \_\_\_\_\_

**General Contractor:** \_\_\_\_\_

**MBE and/or WBE:** \_\_\_\_\_

One copy of this report is to be submitted for each Minority Business Enterprise (MBE) and/or Women Business Enterprise (WBE) at the time of submitting a request for payment. Copies of the report must be sent to the Minority Business Enterprise (MBE) and/or Women Business Enterprise (WBE) named above and to the Awarding Authority's Affirmative Marketing Construction Officer (AMCO). The AMCO will forward a copy of each Contractor Progress Payment Report to SOMWBA on a quarterly basis.

1. The total price to be paid to the above-named Minority Business Enterprise \_\_\_\_\_ and/or Women Business Enterprise \_\_\_\_\_:  
\$ \_\_\_\_\_
2. The amount remitted to the Minority Business Enterprise and/or Women Business Enterprise as of the above date for work performed under this project: \$ \_\_\_\_\_
3. Balance due the Minority Business Enterprise and/or Women Business Enterprise as of the above date for work performed under the above-named project: \$ \_\_\_\_\_
4. Comments or explanation of amounts indicated under items 1 and 2 above:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
5. We hereby certify that the information supplied herein (including pages attached) is correct and complete.

**General Contractor:**

**Minority and/or Women Business Enterprise**

\_\_\_\_\_  
(Signed)

\_\_\_\_\_  
(Signed)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Date)

**CITY OF NEWTON  
MINORITY/ WOMEN BUSINESS ENTERPRISE PLAN  
DECEMBER 1, 1999  
JANUARY 21, 2010 revised**

**STATEMENT OF POLICY:**

Whereas it is the policy of the government of the United States of America, the Commonwealth of Massachusetts and the City of Newton that no person shall be discriminated against in any manner whatsoever on the grounds of race, religion, color, sex, handicap or national origin; and

Whereas, it is the policy of the government of the United States of America that no person shall, on the grounds of race, color, sex or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program of activity funded entirely or in part by the City, the State or Federal government; and

Whereas, it is the policy of the government of the United States of America to encourage that Minority/Women Business Enterprises shall have the maximum practicable opportunity to participate in Federal and State assisted projects; and all City funded contracts; and

Whereas, it is the policy of the City of Newton to encourage that minority/women business enterprises shall have the maximum practicable opportunity to participate in all City funded contracts; and

Whereas, the City of Newton, as a recipient of Federal and State funds subscribes to the above policies and will fully comply With Federal, State and local laws and directives governing non-discrimination, equal opportunity and affirmative action in all municipal activities; and

Whereas, to further enunciate the equal opportunity policy of the City of Newton's Minority/Women Business Program, the following responsibilities are specified

This MINORITY/ WOMEN Business Enterprise Plan sets forth the administrative standards for the further implementation of the City of Newton's policy of the utilization of minority contractors and subcontractors.

The City of Newton strongly affirms that it will not discriminate in any contractual procedures against any persons because of race, color, religion, age, disability, sex or national origin. This policy shall be administered with a positive supportive attitude.

It is the responsibility of the City of Newton to take affirmative steps to implement this policy to insure equality of opportunity in conducting the Program including notifying those persons and businesses doing business with the City, that contracts for goods, services and construction, shall be made Without reference or regard to race, color, sex, age, handicap, religion or national origin.

Setti D. Warren Mayor

CITY OF NEWTON  
MINORITY/ WOMEN BUSINESS ENTERPRISE PLAN  
JANUARY 21, 2010

**I. DEFINITIONS:**

**A. Minority Person-** the term includes a person who is of Black Hispanic, Asian, American Indian or Cape Verdean origin.

**B. Minority Business Enterprise (MBE)** -- the term shall mean a business a) that is certified by SOMWBA; or b) I provides evidence satisfactory to the City's Affirmative Action Officer that it is a business owned or controlled by one or more of the following:

- an individual who is a minority person,
- a partnership or joint venture controlled by minority persons in which at least 51 % of the ownership interest is held by minority persons or,
- a corporation or other entity controlled by minority persons and in which at least 51 % of the stock is owned by one or more minority persons.

**C. Contract Compliance Officer** - the Chief Procurement Officer or his/her designee responsible for the implementation of Newton's Minority/Women Enterprise Plan ("MWBE Plan") and activities.

**D. MCAD** - Massachusetts Commission Against Discrimination.

**E. SOMWBA** -- State Office of Minority/Women Business Assistance.

**F. City** - The City of Newton.

**G. Women Business Enterprise (WBE)** - the term shall mean a business a) that is certified by SOMWBA; or b) provides evidence satisfactory to the City's Affirmative Action Officer that it is a business owned or controlled by one or more of the following:

- an individual who is a woman.
- a partnership or joint venture controlled by women in which at least 51% of the ownership interest is held by women, or
- a corporation or other entity controlled by women and in which at least 51% of the stock is owned by one or more women.

**H. MWBE** — Minority or Women Business Enterprise

**II. GOALS:**

Newton's Minority/Women Enterprise Plan ("MWBE Plan") shall be guided by the goals presented below to promote minority/women opportunities within the City.

These goals comprise the framework for those activities to be implemented as part of the MWBE Plan:

To take affirmative action in expanding opportunities for minority and women owned firms in obtaining contracts within the City of Newton.

To assure that all contractors, regardless of race color, religion, creed, national origin, sex, age, ancestry or handicap, shall have equal opportunity to City contracting activities.

To award, of the total annual City contract dollars expended, 10 percent to MBE and 5 percent to WBE for construction; for goods and services, 5 percent WBE and 5 percent MBE.

### **III. SOLICITATION ACTIVITIES:**

To notify MWBEs of upcoming contracts for construction, professional services and supplies, funded in whole or in part with Federal, State, and City funds, the following activities will be undertaken. In addition on a regular basis, the City of Newton will distribute to its listing of MWBEs and SOMWBA, a summary of upcoming contract opportunities which are subject to the City's MWBE Plan.

#### **A. Construction Contracts**

All construction contracts with an estimated value over \$50,000 will be formally advertised within local, regional, minority and special interest publications at least 14 days prior to the bid opening date.

For all such construction contracts a "Notice of Solicitation" of a project going out to bid will be distributed to appropriate SOMWBA or City certified firms at least 14 days prior to the bid opening date.

#### **B. Contracts for Professional Services**

The City of Newton will send notification of its advertised Request for Proposals to appropriate SOMWBA or City certified firms Responding MWBE firms will be considered for contract award within the bounds of generally accepted management practice or with the applicable procurement law relating to securing the lowest cost and best services available.

#### **C. Procurement of Supplies**

The City of Newton will (where feasible) utilize MWBEs for the procurement of supplies in accordance with City purchasing procedures. These efforts will be documented and reported to MCAD, and the Mayor's office on a quarterly basis.

### **IV. CONSTRUCTION ACTIVITIES:**

#### **A. Goals**

The City of Newton bid documents and contracts with an estimated value over \$50,000 will contain the City's goal of 10% for MBE and 5% for WBE utilization for subcontracts,

#### **B. Pre-Bid Conference**

To affirmatively further the opportunities available to prospective bidders, the City will hold a pre-bid conference 5-7 days prior to the bid opening date for all City construction contracts and subcontracts with an estimated value over \$50,000.

The pre-bid conference will provide an opportunity for contractors to: review and clarify the technical requirements of the projects, review the City's MWBE Plan; and review Equal Opportunity requirements. The City will advertise this conference and extend invitations to interested contractors as part of the notice of solicitation.

**C. Bid Submission**

All bids for City of Newton contracts with -an estimated value over \$50,000 shall include a certification of intent to be completed by the bidder swing his/her intent to comply with the City's MWBE Plan. Failure to include this certification shall be an informality which may be waived if such certification is received prior to the award of the contract.

**D. Contract Execution**

Upon notification of award of the contract, the bidder shall provide a written plan detailing how it will comply with the MWBE Plan

**E. Monitoring**

Throughout the duration of the contract, the City of Newton through its Contract Compliance Officer, will monitor the progress and activities of all contractors and subcontractors as they attempt to comply with the MWBE Plan.

**F. Enforcement**

In the case of clear neglect to make a good faith effort to comply with this MWBE Plan, the City of Newton reserves the right to designate contractor, after a hearing, as ineligible for future City bid awards.

**V. CONTRACT COMPLIANCE OFFICER/DUTIES AND RESPONSIBILITIES:**

The Contract Compliance Officer, as liaison between minority firms and the City of Newton will have the overall responsibility for the implementation of Newton's MWBE Plan. This responsibility includes the development, management, dissemination of information; the provision of technical assistance to minority firms including clarification of procedures to be implemented; maintenance of relevant documentation; completion of reporting requirements; and performance of monitoring and evaluation activities; and maintenance and updating of listings of minority/women business.

The Contract Compliance Officer has oversight of all City procurements for construction, professional services and supplies and shall coordinate the implementation of the MWBE Plan with other City departments.

**THE CITY OF NEWTON, MASSACHUSETTS**  
**SUPPLEMENTAL EQUAL EMPLOYMENT OPPORTUNITY**  
**ANTI-DISCRIMINATION AND AFFIRMATIVE ACTION PROGRAM**

- I. The requirements hereinafter set forth apply to construction contracts which involve an expenditure by the City of \$50,000 or more.
- II. For purposes of this contract "minority" refers to Asian Americans, Black, Hispanics American Indians and Cape Verdeans. The City refers to the- City of Newton
- III. During the performance of this contract the Contractor and all of (his) Subcontractors (hereinafter collectively referred to as the Contractor) , for himself, his assignees, and successors in interest, agree as follows:

In connection with the performance of work under this contract, the Contractor shall not discriminate against any employee or applicant for employment because of race, color, religious creed, national origin, age or sex. The aforesaid provision shall include, but not be limited to, the following: layoff; termination; rates of pay or other forms of compensation; conditions or privileges of employment; and the selection of apprenticeship. The Contractor shall post hereafter in conspicuous places, available for employees and applicants for employment, notices to be provided by the City setting forth the provisions of the Fair Employment Practices Law of the Commonwealth (MGL Chapter 151 B) . (See Attachment A)

2. In connection with the performance of work under this contract, the Contractor shall undertake in good faith, affirmative action measures designed to eliminate any discriminatory barriers in the terms and conditions of employment on the grounds of race, color, religious creed, national origin, age or sex, and to eliminate and remedy any effects of such discrimination -in the past. Such affirmative action shall entail positive and aggressive measures to ensure equal employment: opportunity in the areas of hiring, upgrading, demotion or transfer, recruitment, Layoff or termination, rate of compensation, and in-service or apprenticeship training programs. This affirmative action shall include all action required to guarantee equal employment opportunity for all persons, regardless of race, color, religious creed, national origin, age or sex. A purpose of- this provision is to ensure to the fullest extent possible an adequate supply of skilled tradesmen for this and future City public construction projects

1. As part of this obligation of remedial action under the foregoing section, the contractor shall maintain on this project a not less than 5 percent ratio of minority employee man hours to total man hours in each job category, including, but not limited to, bricklayers, carpenters, cement masons, electricians, ironworkers, operating engineers, and those "classes of work" enumerated in Section 44C of Chapter 149 of the Massachusetts General Laws.
2. In the hiring of minority journeymen, apprentices, trainees and advanced trainees, the Contractor shall rely on referrals, from the Contractor's affirmative action program approved by the City, traditional referral methods utilized by the construction industry, and referrals from agencies, not more than three in number at any one time, designated by the Liaison Committee or the City.

1. At the discretion of the City, there may be established for the life of this contract a body to be known as the Liaison Committee. The Liaison Committee shall be composed of the Compliance Officer and one representative each from the Departments administering this project, hereinafter called the administering Departments, and such other representatives as may be designated by the City.
2. The Contractor (or, his/her agent, if any, designated by him/her as the onsite equal employment opportunity officer) shall recognize the Liaison Committee as the affirmative action body, and shall establish a continuing working relationship with the Liaison Committee on all matters related to minority recruitment, referral, employment and training.
3. The Contractor shall prepare manning tables on a quarterly basis.\* These shall be broken down into projections, by week, for workers required in each trade. Copies shall be furnished one week in advance of the initiation of work and quarterly thereafter to the City and to the Liaison Committee.
4. Records of employment referral orders, prepared by the Contractor, shall be made available to the City and to the Liaison Committee on request.
5. The contractor shall prepare weekly reports in a form approved by the City of hours worked in each trade by each employee, identified as minority or non-minority. Copies of these reports shall be provided at the end of each week to the City and to the Liaison Committee.

\* If job is less than three months, prepare for length of job.

- VI. If the Contractor shall use any sub contractor on any work performed under this contract, he/she shall take affirmative action to negotiate with qualified minority subcontractors. This affirmative action shall cover both pre-bid and post-bid periods. It shall include notification to the State Office of: *Minority Business Assistance* or As designee, while bids are in preparation, of all products, work or services for which the Contractor intends to negotiate bids.
- VII. In the employment of journeyman, apprentices, trainees, and advanced trainees, the Contractor shall give preference to citizens of the Commonwealth who have served in the armed forces of the United States in time of war and have been honorably discharged there from or released from active duty therein, and who are qualified to perform the work to which the employment relates, and, secondly to citizens of the Commonwealth generally, and, if such cannot be obtained in sufficient numbers, then to citizens of the United States
- VIII. A designee of the City and a designee of the Liaison Committee shall each have the right of access to the Construction site,
- IX. **Compliance with Requirements**  
The Contractor shall comply with the provisions of Chapter 151 B of the Massachusetts General Laws, which are herein incorporated by reference and made as amended by Executive Order 227, and of Chapter 151B as amended, of the Massachusetts General Laws, both of which are herein incorporated by reference and made a part of this contract.
- X. **Non-Discrimination**  
The Contractor, in the performance of all work after award, and prior to completion of the contract work, will not discriminate on the grounds of race, color, religious creed,

national origin, age or sex in employment practices, in the selection or retention of sub-contractors, or in the procurement of materials and rentals of equipment.

XI. **Solicitations for sub-Contracts and for the Procurement of Materials and Equipment**

In all solicitations either by competitive bidding or negotiation made by the Contractor either for work to be performed under a subcontract or for the procurement of materials or equipment, each potential subcontractor or supplier shall be notified in writing by the Contractor of the Contractor's obligations under his contract relative to non-discrimination and affirmative action.

XII. **Bidders Certification Requirement**

1. The following certification statement will be inserted in the bid document just above the bidder's signature.

"The bidder hereby certifies he shall comply with the minority manpower ratio and specific action steps contained in the City of Newton, Massachusetts Supplemental Equal Employment-- Opportunity Anti-Discrimination and Affirmative Action Program. The Contractor receiving the award of the contract shall be required to obtain from each of its subcontractors and submit to the contracting or, administering agency prior to the performance of any work under said contract a certification by said subcontractor, regardless of tier, that it will comply with the minority manpower ratio and specific affirmative action steps contained in the City of Newton Massachusetts Supplemental Equal Employment Opportunity Anti -Discrimination and Affirmative Action Program.

XIII. **Contractor's Certification**

A Contractor's' certification form must be signed by all successful low bidders prior to award by the City. A Contractor shall not be eligible for award of a contract unless the contractor has executed and submitted the Contractor's Certification, which shall be deemed a part of the resulting contract. (See Attachment B)

XIV. **Subcontractor's Certification**

Prior to the award of any subcontract, regardless of tier, the prospective subcontractor must execute and submit to the Prime Contractor a subcontractor's certification setting forth the subcontractor's compliance with this program, which shall be deemed a part of the resulting subcontract. (See Attachment C)

XV. **Compliance - Information, Reports and Sanctions**

1. The Contractor will provide all information and reports required by the administering department or, the City on instruction issued by either of them and will permit access to its facilities and any books, records, accounts and other sources of information which



may be determined by the City to affect the employment of personnel. This provision shall apply only to information pertinent to the City's supplementary affirmative action contract requirements. Where information required is in the exclusive possession of another who fails or refuses to furnish this information, the Contractor shall so certify to the administering department or the City as appropriate and shall set forth what efforts he/she has made to obtain the information.

2. Whenever the administering department, the City, or the Liaison Committee believes the General Contractor or any Subcontractor may not-, be operating in compliance with the terms of this Section, the City directly, or through its designated agent, shall conduct an appropriate investigation, and may confer with the parties, to determine if such Contractor is operating in compliance with the terms of this Section. If the City or its agent finds the General Contractor or any Subcontractor not in compliance, it shall make a preliminary report on non-compliance, and notify such Contractor in writing of such steps as will in the judgment of the City or its agent bring such Contractor into compliance. In the event, that such Contractor fails or refuses to fully perform such steps, the City shall make a final report of non-compliance, and recommend to the administering department the imposition of one or more of the sanctions listed below. If, however, the City believes the General Contractor or any Subcontractor has taken or is taking every possible measure to achieve compliance, it shall not make a final report of non-compliance, within fourteen days at the receipt of the recommendations of the City, the administering department shall move to impose one or more of the following sanctions, as it may deem appropriate to attain full and effective enforcement:

- (a) The recovery by the administering department from the General Contractor of 1/100 of!! of the contract award price or \$1000 whichever sum is greater, in the nature of liquidated damages or  
if a Subcontractor is in non-compliance, the recovery by the administering department from the General Contractor, to be assessed by the General Contractor as a back charge against the Subcontractor, of 1/10 of 1% of the sub-contract price, or \$400 whichever sum is greater, in the nature of liquidated damages, for each week that such party fails or refuses to comply
- (b) The suspension of *any* payment of part thereof due under the contract until such time as the General Contractor or any Subcontractor is able to demonstrate his compliance with the terms of the contract;
- (c) The termination, or cancellation, of the contract, in whole or in part, unless the General Contractor or any Subcontractor is able to demonstrate within a specified time his/her compliance  
with the terms of the City's affirmative action construction contract requirements; OR,
- (d) The denial to the General Contractor or any Subcontractor of the right to participate in any future contracts awarded by the administering department for a
- (e) Period of up to three years.

3. If at any time after the imposition of one or more of the above sanctions (unless the contract has been terminated), a Contractor is able to demonstrate that he/she is in compliance with this section, he/she may request the City to suspend the sanctions conditionally pending a final determination by the City as to whether the Contractor is in

compliance. Upon final determination of the City, the administering department, based upon the recommendation of the City, shall either lift the sanctions or continue them.

4. Sanctions enumerated under Section XV shall not be imposed by the City except after the General Contractor or Subcontractor has had an opportunity for full and fair hearing with City. The non-compliance investigation shall be initiated without prior notice to the contractor. Any sanctions to be imposed shall be, set forth fully and completely in writing, and may then be appealed to the City in writing by the Contractor.

**.XIV. Severability**

The provisions of this section are severable, and if any of these provisions shall be held unconstitutional by any court of competent jurisdiction, the decision of such court shall not affect or impair any of the remaining provisions.

# FAIR EMPLOYMENT LAW

The Fair Employment Law declares that it is illegal to discriminate on the basis of race, color, religious creed, national origin, sex, sexual orientation, age, ancestry or disability

## IT IS UNLAWFUL:

- to print or circulate any advertisement or use any application form which directly or indirectly specifies any limitation on the basis of race, color, religious creed, national origin, sex, sexual orientation, age, ancestry or disability.
- to discharge or refuse to hire any individual on the basis of their race, color, religious creed, national origin, sex, sexual orientation, age, ancestry, or disability.
- to discriminate against any individual in matters relating to compensation, terms, conditions, or privileges of employment because of their race, color, religious creed, national origin, sex, sexual orientation, age, ancestry or disability.
- to require a woman to leave her job at some arbitrary stage in her pregnancy or to refuse to let her return to work until a specified time set by the employer.
- to grant a female employee at least eight weeks leave for purposes of childbirth or to treat her absence differently than any other absence due to disability.
- to require an employee to remain at work during any day or part thereof that s/he observes as a religious holiday provided that the employee gives a ten-day notice and the absence does not cause undue hardship to the employer.
- to discharge or refuse to hire any person because of their failure to furnish information concerning admission to a center for the treatment of mentally ill persons.
- to discriminate against a job applicant for failure to furnish information, written or oral, concerning:- A) an arrest, detention or disposition regarding a violation of law in which no conviction resulted; B) a first conviction for any of the following misdemeanors: driving under the influence, simple assault, speeding, minor traffic violations, disturbance of the peace; or C) conviction for a misdemeanor where the date of the conviction or end of period of incarceration, if any, occurred more than five years prior to the employment application, and the applicant has not been convicted of any offense within the five years immediately before the date of application.

## RETALIATION

It is illegal to retaliate against any person because s/he has opposed any practices forbidden under this Chapter or because s/he has filed a complaint, testified, or assisted in any proceeding before the Commission. It is also illegal to aid, abet, incite, compel or coerce the doings of any of the acts forbidden under this Chapter or to attempt to do so.

## SEXUAL HARASSMENT

**151B:1,18** The term "sexual harassment" shall mean sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature when (a) submission to or rejection of such advances, requests or conduct is made either explicitly or implicitly a term or condition of employment, or as a basis for employment decisions; (b) such advances, requests or conduct have the purpose or effect of unreasonably interfering with an individual's work performance by creating an intimidating, hostile, humiliating or sexually offensive work environment.

## COMPLAINTS

All complaints must be filed in writing. Information on the filing of complaints can be obtained by contacting the MASSACHUSETTS COMMISSION AGAINST DISCRIMINATION at the following locations:

Boston office:  
One Ashburton Place  
Room 601  
Boston, MA 02108  
(617) 727-3990

Springfield office:  
436 Dwight Street  
Suite 315  
Springfield, MA 01103  
(413) 739-2145

## Attachment B

### CITY OF NEWTON

#### Contractors Certification

A Contractor will not be eligible for award of a contract, unless such contractor has submitted the following certification, which is deemed a part of the resulting contract.

#### CONTRACTOR'S CERTIFICATION

\_\_\_\_\_ Certifies that:  
Contractor's Name

it tends to use the following listed construction trades in the work under the contract

\_\_\_\_\_ and

2. will comply with the minority manpower ration and specific affirmative action steps contained herein; and
3. will obtain from each of its subcontractors and submit to the contracting or administering agency prior to the award of any subcontract under this contract the subcontractor certification required by these bid conditions

\_\_\_\_\_  
(Signature of authorized representative of Contractor)

Any contract for the provision of goods or services to the City of Newton or any of its departments is subject to the ordinance creating the Human Rights Commission, as it may be amended from Time to Time. Any complaints within the purview shall be forwarded immediately to the contracting agency, and a copy shall be sent to the Human Rights Commission; any complaints received by the contracting agency shall be forwarded to the contractor, and a copy shall be sent to the Human Rights Commission.

## **Attachment C**

### **CITY OF NEWTON**

#### **Subcontractors Certification**

Prior to the award of any subcontract , regardless of tier, the prospective subcontractor must execute and submit to the Prime Contractor the following certification, which will be deemed a part of the resulting subcontractor.

#### **SUBCONTRACTOR'S CERTIFICATION**

\_\_\_\_\_. Certifies that:  
Contractor's Name

it tends to use the following listed construction trades in the work under the contract

\_\_\_\_\_ and

will comply with the minority manpower ration and specific affirmative action steps contained herein; and

will obtain from each of its subcontractors and submit to the contracting or administering agency prior to the award of any subcontract under this contract the subcontractor certification required by these bid conditions

Pursuant to M.G.L. Ch. 62C, Sec. 49A, I certify under the penalties of perjury that, to the best of my knowledge and belief, I am in compliance with all laws of the Commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

\_\_\_\_\_  
(Signature of authorized representative of Contractor)

In order to ensure that the said subcontractor's certification becomes part of all subcontracts under the prime contract, no subcontract shall be executed until an authorize representative of the Administrative Agency administering this project has determined in writing, that the said certification has been incorporated in such subcontract, regardless of tier, Any subcontract executed without such written approval shall be void.

Any contract for the provision of goods or services to the City of Newton or any of its departments is subject to the ordinance creating the Human Rights Commission, as it may be amended from Time to Time. Any complaints within the purview shall be forwarded immediately to the contracting agency, and a copy shall be sent to the Human Rights Commission; any complaints received by the contracting agency shall be forwarded to the contractor, and a copy shall be sent to the Human Rights Commission.

**END OF SECTION**

## **CITY OF NEWTON**

### **WAGE RATE REQUIREMENTS**

#### **1. GENERAL**

- A.** This section summarizes the requirements for the payment of wages to laborers and mechanics employed under the Contract.
- B.** Other duties and requirements of law which may not be specified in this section apply and are inherently a part of the Contract.

#### **2. WAGE RATES**

- A.** The rate per hour to be paid to mechanics, apprentices, teamsters, chauffeurs, and laborers employed on the Work shall not be less than the rate of wages in the attached "Minimum Wage Rates" as determined by the Commissioner of Labor and Industries. This schedule shall continue to be the minimum rate of wages for said employees during the life of this Contract.
- B.** Keep posted on the site a legible copy of said schedule. Keep on file the wage rates and classifications of labor employed on this Work in order that they may be available for inspection by the Owner, Administrator, or the Architect.
- C.** Apprentices employed pursuant to this determination of wage rates must be registered and approved by the State Apprenticeship Council wherever rates for journeymen or apprentices are not listed.
- D.** Pay reserve police officers employed on the Work the prevailing rate of wages paid to regular police officers as required by M.G.L. c149, Sec. 34B, as amended. Such police officers shall be covered by Workmen's Compensation Insurance and Employers Liability Insurance by the Contractor.
- E.** The Contractor and all subcontractors shall, on a weekly basis throughout the term of the contract, provide to the City of Newton certified payroll affidavits verifying compliance with M.G.L. c.149, Sec. 27, 27A and 27B.
- F.** The Contractor and all subcontractors shall provide a Statement of Compliance within 15 days of the completion of its portion of the work. This statement shall be submitted to the Owner on the form found elsewhere in this section.
- G.** The Contractor shall maintain accurate and complete records, including payroll records, during the Contract term and for three years thereafter.

**END OF SECTION**



DEVAL L. PATRICK  
Governor  
TIMOTHY P. MURRAY  
Lt. Governor

THE COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT  
DEPARTMENT OF LABOR STANDARDS

Prevailing Wage Rates

As determined by the Commissioner under the provisions of the  
Massachusetts General Laws, Chapter 149, Sections 26 to 27H



JOANNE F. GOLDSTEIN  
Secretary  
HEATHER E. ROWE  
Deputy Secretary

Awarding Authority: City of Newton

Contract Number: 12-14

City/Town: NEWTON

Description of Work: Bowen School Auditorium Roof Replacement Works

Job Location: 280 Cypress Street

Classification	Effective Dates and Total Rates							
Construction								
(2 AXLE) DRIVER - EQUIPMENT	08/01/2011	\$46,120	12/01/2011	\$46,780	06/01/2012	\$47,080		
	08/01/2012	\$47,430	12/01/2012	\$48,460				
(3 AXLE) DRIVER - EQUIPMENT	08/01/2011	\$46,190	12/01/2011	\$46,850	06/01/2012	\$47,150		
	08/01/2012	\$47,500	12/01/2012	\$48,530				
(4 & 5 AXLE) DRIVER - EQUIPMENT	08/01/2011	\$46,310	12/01/2011	\$46,970	06/01/2012	\$47,270		
	08/01/2012	\$47,620	12/01/2012	\$48,650				
ADS/SUBMERSTIBLE PILOT	08/01/2011	\$107,800						
AIR TRACK OPERATOR	06/01/2011	\$50,850	12/01/2011	\$52,100				
ASBESTOS REMOVER - PIPE / MECH. EQUIPT.	12/01/2009	\$40,250						
ASPHALT RAKER	06/01/2011	\$50,350	12/01/2011	\$51,600				
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE	06/01/2011	\$61,290	12/01/2011	\$61,920	06/01/2012	\$62,490		
	12/01/2012	\$63,110	06/01/2013	\$63,890	12/01/2013	\$64,670		
BACKHOE/FRONT-END LOADER	06/01/2011	\$61,290	12/01/2011	\$61,920	06/01/2012	\$62,490		
	12/01/2012	\$63,110	06/01/2013	\$63,890	12/01/2013	\$64,670		
BARCO-TYPE JUMPING TAMPER	06/01/2011	\$50,350	12/01/2011	\$51,600				
BLOCK PAVER, RAMMER / CURB SETTER	06/01/2011	\$50,850	12/01/2011	\$52,100				
BOILER MAKER	01/01/2010	\$55,850						
APPRENTICE BOILERMAKER - Local 29								
Ratio Step	1	2	3	4	5	6	7	8
1:5 %	63.00	65.00	70.00	75.00	80.00	85.00	90.00	95.00
Apprentice wages shall be no less than the following:								
Step 7542.66/2542.66/544.34/45.18.31/6550.20/7552.08/8553.97								
BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)								
APPRENTICE BRICK/PLASTER/CEMENT MASON - Local 3 Newton								
Ratio Step	1	2	3	4	5			
1:3 %	50.00	60.00	70.00	80.00	90.00			
Apprentice wages shall be no less than the following:								
Step 1549.72/2554.18/3559.01/4563.69/5568.34								
BULLDOZER/GRADER/SCRAPER	06/01/2011	\$60,910	12/01/2011	\$61,560	06/01/2012	\$62,120		
	12/01/2012	\$62,740	06/01/2013	\$63,510	12/01/2013	\$64,290		
CAISSON & UNDERPINNING BOTTOM MAN	06/01/2011	\$51,250	12/01/2011	\$52,500				
CAISSON & UNDERPINNING LABORER	06/01/2011	\$50,100	12/01/2011	\$51,350				
CAISSON & UNDERPINNING TOP MAN	06/01/2011	\$50,100	12/01/2011	\$51,350				
CARBIDE CORE DRILL OPERATOR	06/01/2011	\$50,350	12/01/2011	\$51,600				
CARPENTER	03/01/2011	\$56,230	09/01/2011	\$57,360	03/01/2012	\$58,480		

This wage schedule must be posted at the work site in accordance with M.G.L. ch. 149, sec. 27

Failure of the employer to pay "prevailing wage rates," which are the minimum wage rates listed above, on public works projects is a violation of M.G.L. ch. 149, sec. 27. Employees not receiving such rates should report the violation to the Office of Fair Labor and Business Practices, 100 Cambridge Street, Boston, MA 02108; Tel: 617-727-3465.

Issue Date: 08/31/2011

Wage Request Number: 20110831-012

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DEVAL L. PATRICK  
Governor  
TIMOTHY P. MURRAY  
Lt. Governor

THE COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT  
DEPARTMENT OF LABOR STANDARDS

Prevailing Wage Rates

As determined by the Commissioner under the provisions of the  
Massachusetts General Laws, Chapter 149, Sections 26 to 27H



JOANNE F. GOLDSTEIN  
Secretary  
HEATHER E. ROWE  
Director

Awarding Authority: City of Newton

Contract Number: 12-14

City/Town: NEWTON

Description of Work: Bowen School Auditorium Roof Replacement Works

Job Location: 280 Cypress Street

Classification		Effective Dates and Total Rates							
APPRENTICE: CARPENTER - Zone 2 Eastern MA									
Ratio	Step	1	2	3	4	5	6	7	8
1:5	%	50.00	60.00	70.00	75.00	80.00	80.00	90.00	90.00
Apprentice wages shall be no less than the following:									
Step 1526.27/2529.47/3541.91/4543.51/5546.68/6546.68/7551.46/8550.87									
CEMENT MASONRY/PLASTERING					08/01/2011	\$70.770	02/01/2012	\$71.540	
CHAIN SAW OPERATOR					06/01/2011	\$50.350	12/01/2011	\$51.600	
CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES					06/01/2011	\$62.290	12/01/2011	\$62.920	06/01/2012 \$63.490
					12/01/2012	\$64.110	06/01/2013	\$64.890	12/01/2013 \$65.670
COMPRESSOR OPERATOR					06/01/2011	\$49.910	12/01/2011	\$50.350	06/01/2012 \$50.740
					12/01/2012	\$51.190	06/01/2013	\$51.740	12/01/2013 \$52.290
DELEADER (BRIDGE)					07/01/2011	\$65.410	01/01/2012	\$66.410	07/01/2012 \$67.410
					01/01/2013	\$68.410			
APPRENTICE: PAINTER Local 35 - BRIDGES/TANKS									
Ratio	Step	1	2	3	4	5	6	7	8
1:1	%	50.00	55.00	60.00	65.00	70.00	75.00	80.00	90.00
Apprentice wages shall be no less than the following:									
Step 1529.31/2534.57/3537.00/4539.43/5550.33/6552.75/7555.18/8560.05									
DEMO: ADZEMAN					06/01/2011	\$50.100	12/01/2011	\$51.350	
DEMO: BACKHOE/LOADER/HAMMER OPERATOR					06/01/2011	\$51.100	12/01/2011	\$52.350	
APPRENTICE: LABORER Demo Backhoe/Loader/Hammer Operator									
Ratio	Step	1	2	3	4				
1:5	%	60.00	70.00	80.00	90.00				
Apprentice wages shall be no less than the following:									
Step 1532.28/2541.49/3544.69/4547.90									
DEMO: BURNERS					06/01/2011	\$50.850	12/01/2011	\$52.100	
APPRENTICE: LABORER Demo Burners									
Ratio	Step	1	2	3	4				
1:5	%	60.00	70.00	80.00	90.00				
Apprentice Wages shall be no less than the following:									
Step 1538.13/2541.31/3544.49/4547.67									
DEMO: CONCRETE CUTTER/SAWYER					06/01/2011	\$51.100	12/01/2011	\$52.350	
DEMO: JACKHAMMER OPERATOR					06/01/2011	\$50.850	12/01/2011	\$52.100	
DEMO: WRECKING LABORER					06/01/2011	\$50.100	12/01/2011	\$51.350	
APPRENTICE: LABORER Demo Wrecking Laborer									
Ratio	Step	1	2	3	4				
1:5	%	60.00	70.00	80.00	90.00				
Apprentice wages shall be no less than the following:									
Step 1537.68/2540.79/3543.89/4547.00									

This wage schedule must be posted at the work site in accordance with M.G.L. ch. 149, sec. 27

Failure of the employer to pay "prevailing wage rates," which are the minimum wage rates listed above, on public works projects is a violation of M.G.L. ch. 149, sec. 27. Employees not receiving such rates should report the violation to the Office of Fair Labor and Business Practices, 100 Cambridge Street, Boston, MA 02108; Tel: 617-727-3465.

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Lt. Governor

THE COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT  
DEPARTMENT OF LABOR STANDARDS

Prevailing Wage Rates

As determined by the Commissioner under the provisions of the  
Massachusetts General Laws, Chapter 149, Sections 26 to 27H



JOANNE F. GOLDSTEIN  
Secretary  
HEATHER E. ROWE  
Director

Awarding Authority: City of Newton

Contract Number: 12-14

City/Town: NEWTON

Description of Work: Bowen School Auditorium Roof Replacement Works

Job Location: 280 Cypress Street

Classification	Effective Dates and Total Rates									
DIRECTIONAL DRILL MACHINE OPERATOR	06/01/2011	\$60,940	12/01/2011	\$61,560	06/01/2012	\$62,120				
	12/01/2012	\$62,740	06/01/2013	\$63,310	12/01/2013	\$64,290				
DIVER	08/01/2011	\$80,270								
DIVER TENDER	08/01/2011	\$65,320								
DIVER TENDER (EFFLUENT)	08/01/2011	\$85,380								
DIVER/SLURRY (EFFLUENT)	08/01/2011	\$107,800								
ELECTRICIAN	03/01/2011	\$68,290								
APPRENTICE: ELECTRICIAN - Local 103										
Ratio Step	1	2	3	4	5	6	7	8	9	10
2:3*** %	40.00	40.00	45.00	45.00	50.00	55.00	60.00	65.00	70.00	75.00
Apprentice wages shall be no less than the following Steps: App Prior 1/1/03: 30/33/40/45/50/55/65/70/75/80										
1537.38/2537.38/3544.81/4544.81/5546.95/6549.08/7551.22/8553.35/9555.49/10557.62										
ELEVATOR CONSTRUCTOR	01/01/2011	\$66,690	01/01/2012	\$68,190						
APPRENTICE: ELEVATOR CONSTRUCTOR - Local 4										
Ratio Step	1	2	3	4	5					
1:1 %	50.00	55.00	60.00	70.00	80.00					
Apprentice rates shall be no less than the following: Steps 1-2 are 6 mos; Steps 3-5 are 1 year										
Step 1534.26/2543.76/3548.86/4551.41/5556.50										
ELEVATOR CONSTRUCTOR HELPER	01/01/2011	\$52,830	01/01/2012	\$54,330						
FENCE & GUARD RAIL ERECTOR	06/01/2011	\$50,350	12/01/2011	\$51,600						
FIELD ENG. INST. PERSON-BLDG, SITE, HWY/HWY	05/01/2011	\$39,380								
FIELD ENG. PARTY CHIEF-BLDG, SITE, HWY/HWY	05/01/2011	\$60,770								
FIELD ENG. ROD PERSON-BLDG, SITE, HWY/HWY	05/01/2011	\$42,930								
FIRE ALARM INSTALLER	03/01/2011	\$68,290								
FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONING	03/01/2011	\$56,300								
FIREMAN (ASST. ENGINEER)	06/01/2011	\$55,100	12/01/2011	\$55,630	06/01/2012	\$56,100				
	12/01/2012	\$56,630	06/01/2013	\$57,280	12/01/2013	\$57,940				
FLAGGER & SIGNALER	06/01/2011	\$39,350	12/01/2011	\$39,350						
FLOORCOVERER	03/01/2011	\$61,110	09/01/2011	\$62,360	03/01/2012	\$63,610				
APPRENTICE: FLOORCOVERER - Local 2163 Zone 1										
Ratio Step	1	2	3	4	5	6	7	8		
1:1 %	50.00	55.00	60.00	65.00	70.00	75.00	80.00	85.00		
Apprentice rates shall be no less than the following: Steps are 750 hrs										
Step 1528.34/2530.17/3541.41/4543.20/5546.78/6548.57/7552.15/8553.93										
FORK LIFT/CHERRY PICKER	06/01/2011	\$61,290	12/01/2011	\$61,920	06/01/2012	\$62,490				
	12/01/2012	\$63,110	06/01/2013	\$63,890	12/01/2013	\$64,670				
GENERATOR/LIGHTING PLANT/HEATERS	06/01/2011	\$49,910	12/01/2011	\$50,350	06/01/2012	\$50,740				
	12/01/2012	\$51,190	06/01/2013	\$51,740	12/01/2013	\$52,290				

This wage schedule must be posted at the work site in accordance with M.G.L. ch. 149, sec. 27

Failure of the employer to pay "prevailing wage rates," which are the minimum wage rates listed above, on public works projects is a violation of M.G.L. ch. 149, sec. 27. Employees not receiving such rates should report the violation to the Office of Fair Labor and Business Practices, 100 Cambridge Street, Boston, MA 02108; Tel: 617-727-3465.

Issue Date: 08/31/2011

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DEVAL L. PATRICK  
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THE COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT  
DEPARTMENT OF LABOR STANDARDS

Prevailing Wage Rates

As determined by the Commissioner under the provisions of the  
Massachusetts General Laws, Chapter 149, Sections 26 to 27H



JOANNE F. GOLDSTEIN  
Secretary  
HEATHER E. ROWE  
Director

Awarding Authority: City of Newton

Contract Number: 12-14

City/Town: NEWTON

Description of Work: Bowen School Auditorium Roof Replacement Works

Job Location: 280 Cypress Street

Classification	Effective Dates and Total Rates					
GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS)	07/01/2011	\$54,910	01/01/2012	\$55,910	07/01/2012	\$56,910
	01/01/2013	\$57,910				
APPRENTICE: GLAZIER - Local 35 Zone 2						
Ratio Step	1	2	3	4	5	6
1:1 %	50.00	55.00	60.00	65.00	70.00	75.00
Apprentice wages shall be no less than the following:						
Step 1524 06/2528 79/3530 70/4532 60/5543 00/6544 87/7546 78/8550 60						
Steps are 750 hrs.						
HOISTING ENGINEER/CRANES/GRADALLS	06/01/2011	\$61,290	12/01/2011	\$61,920	06/01/2012	\$62,490
	12/01/2012	\$63,110	06/01/2013	\$63,890	12/01/2013	\$64,670
APPRENTICE: HOIST/PORT. ENG. - Local 4						
Ratio Step	1	2	3	4	5	6
1:6 %	55.00	60.00	65.00	70.00	75.00	80.00
Apprentice wages shall be no less than the following:						
Step 1531.50/2545 65/3547 61/4549 56/5551 52/6553 47/7555 43/8557 38						
HVAC (DUCTWORK)	08/01/2011	\$66,740	02/01/2012	\$67,990	08/01/2012	\$69,240
	02/01/2013	\$70,490				
HVAC (ELECTRICAL CONTROLS)	03/01/2011	\$68,290				
HVAC (TESTING AND BALANCING - AIR)	08/01/2011	\$66,740	02/01/2012	\$67,990	08/01/2012	\$69,240
	02/01/2013	\$70,490				
HVAC (TESTING AND BALANCING - WATER)	09/01/2010	\$68,730	09/01/2011	\$69,230		
HVAC MECHANIC	09/01/2010	\$68,730	09/01/2011	\$69,230		
HYDRAULIC DRILLS	06/01/2011	\$50,850	12/01/2011	\$52,100		
INSULATOR (PIPES & TANKS)	09/01/2010	\$61,660				
APPRENTICE: ASBESTOS INSULATOR (Pipes & Tanks) - Local 6 Boston						
Ratio Step	1	2	3	4		
1:4 %	50.00	60.00	70.00	80.00		
Apprentice wages shall be no less than the following:						
Step 1517.14/2542 26/3547 07/4551 93						
IRONWORKER/WELDER	03/16/2011	\$61,930	09/16/2011	\$62,930	03/16/2012	\$63,930
	09/16/2012	\$61,930	03/16/2013	\$66,180		
APPRENTICE: IRONWORKER - Local 7 Boston						
Ratio Step	1	2	3	4	5	6
** %	60.00	70.00	75.00	80.00	85.00	90.00
Apprentice wages shall be no less than the following:						
Step 1517.42/2551 05/3552 85/4553 1.67/5556 49/6558 30						
JACKHAMMER & PAVING BREAKER OPERATOR	06/01/2011	\$50,350	12/01/2011	\$51,600		
LABORER	06/01/2011	\$50,100	12/01/2011	\$51,350		

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DEVAL L. PATRICK  
Governor  
TIMOTHY P. MURRAY  
Lt. Governor

THE COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT  
DEPARTMENT OF LABOR STANDARDS

Prevailing Wage Rates

As determined by the Commissioner under the provisions of the  
Massachusetts General Laws, Chapter 149, Sections 26 to 27H



JOANNE F. GOLDSTEIN  
Secretary  
HEATHER E. ROWE  
Director

Awarding Authority: City of Newton

Contract Number: 12-14

City/Town: NEWTON

Description of Work: Bowen School Auditorium Roof Replacement Works

Job Location: 280 Cypress Street

Classification

Effective Dates and Total Rates

APPRENTICE: LABORER - Zone 1									
Ratio	Step	1	2	3	4				
1:5	%	\$0.00	\$0.00	\$0.00	\$0.00				
Apprentice wages shall be no less than the following:									
Step 1537.68/2540.79/3543.89/4547.00									
LABORER: CARPENTER TENDER						06/01/2011	\$50.100	12/01/2011	\$51.350
LABORER: CEMENT FINISHER TENDER						06/01/2011	\$50.100	12/01/2011	\$51.350
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER						06/01/2011	\$50.100	12/01/2011	\$51.350
LABORER: MASON TENDER						06/01/2011	\$50.350	12/01/2011	\$51.600
LABORER: MULTI-TRADE TENDER						06/01/2011	\$50.100	12/01/2011	\$51.350
LABORER: TREE REMOVER						06/01/2011	\$50.100	12/01/2011	\$51.350
This classification applies to the wholesale removal of standing trees including all associated trimming of branches and limbs, and applies to the removal of branches at locations not on or around utility lines.									
LASER BEAM OPERATOR						06/01/2011	\$50.350	12/01/2011	\$51.600
MARBLE & TILE FINISHERS						08/01/2011	\$60.950	02/01/2012	\$61.740
APPRENTICE: MARBLE & TILE FINISHER - Local 3 Marble & Tile									
Ratio	Step	1	2	3	4	5			
1:3	%	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00			
Apprentice wages shall be no less than the following:						Steps are 800 hrs.			
Step 1543.19/2546.74/3550.29/4553.85/5557.40									
MARBLE MASONS, TILELAYERS & TERRAZZO MECH						08/01/2011	\$73.040	02/01/2012	\$74.030
APPRENTICE: MARBLE-TILE-TERRAZZO MECHANIC - Local 3 Marble & Tile									
Ratio	Step	1	2	3	4	5			
1:3	%	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00			
Apprentice wages shall be no less than the following:									
Step 1549.74/2554.40/3559.06/4563.72/5568.38									
MECH. SWEEPER OPERATOR (NON-CONSTRUCTION)						07/01/2011	\$30.290		
MECH. SWEEPER OPERATOR (ON CONST. SITES)						06/01/2011	\$60.940	12/01/2011	\$61.560
						12/01/2012	\$62.740	06/01/2013	\$63.510
MECHANICS MAINTENANCE						06/01/2011	\$60.940	12/01/2011	\$61.560
						12/01/2012	\$62.740	06/01/2013	\$63.510
MILLWRIGHT (Zone 1)						04/01/2011	\$57.850		
APPRENTICE: MILLWRIGHT - Local 1121 Zone 1									
Ratio	Step	1	2	3	4	5	6	7	8
1:5	%	\$0.00	\$5.00	\$0.00	\$5.00	\$0.00	\$5.00	\$0.00	\$5.00
Apprentice wages shall be no less than the following:									
Step 1537.10/2538.77/3542.04/4543.72/5546.19/6547.87/7550.35/8552.02									
MORTAR MIXER						06/01/2011	\$50.350	12/01/2011	\$51.600

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Failure of the employer to pay "prevailing wage rates," which are the minimum wage rates listed above, on public works projects is a violation of M.G.L. ch. 149, sec. 27. Employees not receiving such rates should report the violation to the Office of Fair Labor and Business Practices, 100 Cambridge Street, Boston, MA 02108; Tel: 617-727-3465.

Issue Date: 08/31/2011

Wage Request Number: 20110831-012

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DEVAL L. PATRICK  
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TIMOTHY P. MURRAY  
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THE COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT  
DEPARTMENT OF LABOR STANDARDS

Prevailing Wage Rates

As determined by the Commissioner under the provisions of the  
Massachusetts General Laws, Chapter 149, Sections 26 to 27H



JOANNE F. GOLDSTEIN  
Secretary

HEATHER E. ROWE  
Director

Awarding Authority: City of Newton

Contract Number: 12-14

City/Town: NEWTON

Description of Work: Bowen School Auditorium Roof Replacement Works

Job Location: 280 Cypress Street

Classification	Effective Dates and Total Rates					
OILER (OTHER THAN TRUCK CRANES, GRADALLS)	06/01/2011	\$43,340	12/01/2011	\$43,680	06/01/2012	\$43,960
	12/01/2012	\$44,300	06/01/2013	\$44,720	12/01/2013	\$45,140
OILER (TRUCK CRANES, GRADALLS)	06/01/2011	\$46,320	12/01/2011	\$46,910	06/01/2012	\$47,250
	12/01/2012	\$47,640	06/01/2013	\$48,120	12/01/2013	\$48,610
OTHER POWER DRIVEN EQUIPMENT - CLASS II	06/01/2011	\$60,940	12/01/2011	\$61,560	06/01/2012	\$62,120
	12/01/2012	\$62,740	06/01/2013	\$63,510	12/01/2013	\$64,290
PAINTER (BRIDGES/TANKS)	07/01/2011	\$65,410	01/01/2012	\$66,410	07/01/2012	\$67,410
	01/01/2013	\$68,410				
APPRENTICE: PAINTER Local 35 - BRIDGES/TANKS						
Ratio Step	1	2	3	4	5	6
1:1 %	\$0.00	\$5.00	\$0.00	\$5.00	\$0.00	\$5.00
Apprentice wages shall be no less than the following:						
Step 1529.31/2514.37/3537.00/4539.43/5550.35/6552.75/7555.18/8560.03						
Steps are 750 hrs						
PAINTER (SPRAY OR SANDBLAST, NEW) *	07/01/2011	\$56,310	01/01/2012	\$57,310	07/01/2012	\$58,310
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used.	01/01/2013	\$59,310				
APPRENTICE: PAINTER Local 35 Zone 2 - Spray/Sandblast - New						
Ratio Step	1	2	3	4	5	6
1:1 %	\$0.00	\$5.00	\$0.00	\$5.00	\$0.00	\$5.00
Apprentice wages shall be no less than the following:						
Step 1524.76/2529.56/3531.54/4531.51/5543.98/6545.92/7547.90/8551.86						
PAINTER (SPRAY OR SANDBLAST, REPAINT)	07/01/2011	\$54,370	01/01/2012	\$55,370	07/01/2012	\$56,370
	01/01/2013	\$57,370				
APPRENTICE: PAINTER Local 35 Zone 2 - Spray/Sandblast - Repaint						
Ratio Step	1	2	3	4	5	6
1:1 %	\$0.00	\$5.00	\$0.00	\$5.00	\$0.00	\$5.00
Apprentice wages shall be no less than the following:						
Step 1523.79/2528.49/3530.37/4532.25/5542.62/6544.47/7546.35/8550.11						
PAINTER (TRAFFIC MARKINGS)	06/01/2011	\$50,100	12/01/2011	\$51,350		
PAINTER /TAPER (BRUSH, NEW) *	07/01/2011	\$54,910	01/01/2012	\$55,910	07/01/2012	\$56,910
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used.	01/01/2013	\$57,910				
APPRENTICE: PAINTER - Local 35 Zone 2 - BRUSH NEW						
Ratio Step	1	2	3	4	5	6
1:1 %	\$0.00	\$5.00	\$0.00	\$5.00	\$0.00	\$5.00
Apprentice wages shall be no less than the following:						
Step 1514.06/2518.79/3530.70/4532.60/5541.00/6544.87/7546.78/8550.60						
PAINTER / TAPER (BRUSH, REPAINT)	07/01/2011	\$52,970	01/01/2012	\$53,970	07/01/2012	\$54,970
	01/01/2013	\$55,970				

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DEVAL L. PATRICK  
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THE COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT  
DEPARTMENT OF LABOR STANDARDS

Prevailing Wage Rates

As determined by the Commissioner under the provisions of the  
Massachusetts General Laws, Chapter 149, Sections 26 to 27H



JOANNE F. GOLDSTEIN  
Secretary  
HEATHER E. ROWE  
Director

Awarding Authority: City of Newton

Contract Number: 12-14

City/Town: NEWTON

Description of Work: Bowen School Auditorium Roof Replacement Works

Job Location: 280 Cypress Street

Classification	Effective Dates and Total Rates									
APPRENTICE: PAINTER Local 35 Zone 2 - BRUSH REPAIR										
Ratio	Step	1	2	3	4	5	6	7	8	
1:1	%	\$0.00	\$5.00	\$6.00	\$5.00	\$7.00	\$5.00	\$8.00	\$9.00	
Apprentice wages shall be no less than the following.										
Step 1523.09/2527.72/3559.53/4531.14/5541.64/6543.42/7545.23/8548.83										
PANEL & PICKUP TRUCKS DRIVER					08/01/2011	\$45.950	12/01/2011	\$46.610	06/01/2012	\$46.910
					08/01/2012	\$47.260	12/01/2012	\$48.290		
PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK)					08/01/2011	\$65.320				
PILE DRIVER					08/01/2011	\$65.320				
APPRENTICE: PILE DRIVER - Local 56 Zone 1										
Ratio	Step	1	2	3	4	5	6	7	8	
1:3	%	\$0.00	\$5.00	\$7.00	\$5.00	\$8.00	\$5.00	\$9.00	\$5.00	
Apprentice wages shall be no less than the following:										
Step 1849.27/2551.28/3553.28/4555.29/5557.30/6559.30/7561.31/8563.31										
PIPEFITTER & STEAMFITTER					09/01/2010	\$68.730	09/01/2011	\$69.230		
APPRENTICE: PIPEFITTER - Local 537										
Ratio	Step	1	2	3	4	5				
**	%	\$0.00	\$5.00	\$6.00	\$7.00	\$8.00				
Apprentice Rates-Step1533.44/2543.38/3550.29/4554.90/5559.51										
Refrig/AC Mechanic ** 1:1; 2:2; 4:3; 5:1; 8:3; 10:6; 12:7; 14:8; 17:9; 20:10; 23:0(Max)										
PIPELAYER					06/01/2011	\$50.350	12/01/2011	\$51.600		
PLUMBERS & GASFITTERS					03/01/2011	\$67.500	09/01/2011	\$68.620	03/01/2012	\$69.420
					09/01/2012	\$70.670	03/01/2013	\$71.920		
APPRENTICE: PLUMBER - Local 12										
Ratio	Step	1	2	3	4	5				
**	%	\$5.00	\$0.00	\$5.00	\$5.00	\$5.00				
Apprentice wages shall be no less than the following:										
Step 1510.01/2532.89/3541.54/4547.31/ 4whe\$50.20 /5553.09/ 5whe\$55.98										
PNEUMATIC CONTROLS (TEMP.)					09/01/2010	\$68.730	09/01/2011	\$69.230		
PNEUMATIC DRILL/TOOL OPERATOR					06/01/2011	\$50.350	12/01/2011	\$51.600		
POWDERMAN & BLASTER					06/01/2011	\$51.100	12/01/2011	\$52.350		
POWER SHOVEL/DERRICK/TRENCHING MACHINE					06/01/2011	\$61.290	12/01/2011	\$61.920	06/01/2012	\$62.490
					12/01/2012	\$63.110	06/01/2013	\$63.890	12/01/2013	\$64.670
PUMP OPERATOR (CONCRETE)					06/01/2011	\$61.290	12/01/2011	\$61.920	06/01/2012	\$62.490
					12/01/2012	\$63.110	06/01/2013	\$63.890	12/01/2013	\$64.670
PUMP OPERATOR (DEWATERING, OTHER)					06/01/2011	\$49.910	12/01/2011	\$50.350	06/01/2012	\$50.740
					12/01/2012	\$51.190	06/01/2013	\$51.740	12/01/2013	\$52.290
READY-MIX CONCRETE DRIVER					05/01/2011	\$41.690				

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DEVAL L. PATRICK  
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THE COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT  
DEPARTMENT OF LABOR STANDARDS

Prevailing Wage Rates

As determined by the Commissioner under the provisions of the  
Massachusetts General Laws, Chapter 149, Sections 26 to 27H



JOANNE P. GOLDSTEIN  
Secretary  
HEATHER E. ROWE  
Director

Awarding Authority: City of Newton

Contract Number: 12-14

City/Town: NEWTON

Description of Work: Bowen School Auditorium Roof Replacement Works

Job Location: 280 Cypress Street

Classification	Effective Dates and Total Rates					
RECLAIMERS	06/01/2011	\$60.940	12/01/2011	\$61.560	06/01/2012	\$62.120
	12/01/2012	\$62.740	06/01/2013	\$63.510	12/01/2013	\$64.290
RESIDENTIAL WOOD FRAME (All Other Work)	04/01/2011	\$48.420				
RESIDENTIAL WOOD FRAME CARPENTER **	04/01/2011	\$36.810				
** The Residential Wood Frame Carpenter classification applies only to the construction of new, wood frame residences that do not exceed four stories including the basement.						
As of 9/1/09 Carpentry work on wood-frame residential WEATHERIZATION projects shall be paid the RESIDENTIAL WOOD FRAME CARPENTER rate.						
APPRENTICE: CARPENTER (Residential Wood Frame) - Zone 2						
Ratio Step	1	2	3	4	5	6
1:5 %	60.00	60.00	65.00	70.00	75.00	80.00
Apprentice wages shall be no less than the following.						
Step 1 \$20.88/2527.11/3528.33/4529.54/5530.75/6531.96/7533.17/8534.39						
RIDE-ON MOTORIZED BUGGY OPERATOR	06/01/2011	\$50.350	12/01/2011	\$51.600		
ROLLER/SPREADER/MULCHING MACHINE	06/01/2011	\$60.940	12/01/2011	\$61.560	06/01/2012	\$62.120
	12/01/2012	\$62.740	06/01/2013	\$63.510	12/01/2013	\$64.290
ROOFER (Inc. Roofer Waterproofing & Roofer Dampproofing)	08/01/2011	\$56.860	02/01/2012	\$57.860	08/01/2012	\$58.860
	02/01/2013	\$59.860				
APPRENTICE ROOFER - Local 33						
Ratio Step	1	2	3	4	5	
** %	50.00	60.00	65.00	75.00	85.00	
** 1:5, 2:6-10, the 1:10, Reroofing: 1:4, then 1:1						
Step 1 is 2000 hrs; Steps 2-5 are 1000 hrs						
Apprentice rates no less than: Step 1 \$31.71/2542.24/3544.06/4547.72/5551.38						
ROOFER SLATE / TILE / PRECAST CONCRETE	08/01/2011	\$57.110	02/01/2012	\$58.110	08/01/2012	\$59.110
	02/01/2013	\$60.110				
APPRENTICE ROOFER (Slate/Tile/Precast Concrete) - Local 33						
Ratio Step	1	2	3	4	5	
** %	50.00	60.00	65.00	75.00	85.00	
Apprentice wages shall be paid no less than the following.						
Step 1 \$31.84/2542.39/3544.23/4547.91/5551.59						
SHEETMETAL WORKER	08/01/2011	\$66.740	02/01/2012	\$67.990	08/01/2012	\$69.240
	02/01/2013	\$70.490				
APPRENTICE: SHEET METAL WORKER - Local 17-A						
Ratio Step	1	2	3	4	5	6
1:4 %	40.00	45.00	50.00	60.00	65.00	75.00
Apprentice wages shall be no less than the following.						
Steps 1-3 are 1 year; Steps 4-7 are 6 mos.						
Step 1 \$29.49/2535.19/3538.16/4543.32/5546.03/6551.45/7556.37						
SIGN ERECTOR	06/01/2009	\$37.780				

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THE COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT  
DEPARTMENT OF LABOR STANDARDS

Prevailing Wage Rates

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Massachusetts General Laws, Chapter 149, Sections 26 to 27H



JOANNE F. GOLDSTEIN  
Secretary  
HEATHER E. ROWE  
Director

Awarding Authority: City of Newton

Contract Number: 12-14

City/Town: NEWTON

Description of Work: Bowen School Auditorium Roof Replacement Works

Job Location: 280 Cypress Street

Classification		Effective Dates and Total Rates									
APPRENTICE: SIGN ERECTOR - Local 35 Zone 2											
Ratio	Step	1	2	3	4	5	6	7	8	9	
1:1	%	50.00	55.00	60.00	65.00	70.00	75.00	80.00	85.00	90.00	
Apprentice wages shall be no less than the following:						Steps are 4 mos					
Step 1\$19.48/2523, 12/3524, 36/4525 60/5530 34/6531, 18/7532 82/8534, 06/9535, 30											
SPECIALIZED EARTH MOVING EQUIP < 35 TONS						08/01/2011	\$46,410	12/01/2011	\$47,070	06/01/2012	\$47,370
						08/01/2012	\$47,720	12/01/2012	\$48,750		
SPECIALIZED EARTH MOVING EQUIP > 35 TONS						08/01/2011	\$46,700	12/01/2011	\$47,360	06/01/2012	\$47,660
						08/01/2012	\$48,010	12/01/2012	\$49,040		
SPRINKLER FITTER						01/01/2011	\$70,350	09/01/2011	\$71,350	01/01/2012	\$71,500
						03/01/2012	\$72,250	09/01/2012	\$73,250	01/01/2013	\$73,400
						03/01/2013	\$74,400				
APPRENTICE: SPRINKLER FITTER - Local 550											
Ratio	Step	1	2	3	4	5	6	7	8	9	10
1:1	%	40.00	45.00	50.00	55.00	60.00	65.00	70.00	75.00	80.00	85.00
Apprentice wages shall be no less than the following steps:											
1\$16.20/2538 75/3541 30/4543 85/5546 40/6548 95/7551 50/8554 05/9556 60/10559, 15											
STEAM BOILER OPERATOR						06/01/2011	\$60,940	12/01/2011	\$61,560	06/01/2012	\$62,120
						12/01/2012	\$62,740	06/01/2013	\$63,510	12/01/2013	\$64,290
TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN						06/01/2011	\$60,940	12/01/2011	\$61,560	06/01/2012	\$62,120
						12/01/2012	\$62,740	06/01/2013	\$63,510	12/01/2013	\$64,290
TELECOMMUNICATION TECHNICIAN						03/01/2011	\$56,300				
APPRENTICE: TELECOMMUNICATION TECHNICIAN - Local 101											
Ratio	Step	1	2	3	4	5	6	7	8		
1:1	%	40.00	45.00	50.00	55.00	60.00	65.00	75.00	80.00		
Apprentice wages shall be no less than the following:											
Step 1\$17.09/2538 69/3540 30/4541 85/5543 10/7548 30/8549, 90											
TERRAZZO FINISHERS						08/01/2011	\$71,940	02/01/2012	\$72,930		
APPRENTICE: TERRAZZO FINISHER - Local 3 Marble & Tile											
Ratio	Step	1	2	3	4	5					
1:3	%	50.00	60.00	70.00	80.00	90.00					
Apprentice wages shall be no less than the following:						Steps are 800 hrs.					
Step 1\$49.19/2553 74/3558 29/4562 84/5567, 39											
TEST BORING DRILLER						06/01/2011	\$31,500	12/01/2011	\$32,750		
APPRENTICE: TEST BORING DRILLER (Laborers Foundation & Marine)											
Ratio	Step	1	2	3	4						
1:3	%	60.00	70.00	80.00	90.00						
Apprentice wages shall be no less than the following:											
Step 1\$38.58/2541, 31/3545 04/4548, 27											

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Prevailing Wage Rates

As determined by the Commissioner under the provisions of the  
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JOANNE P. GOLDSTEIN  
Secretary  
HEATHER E. ROWE  
Deputy Secretary

Awarding Authority: City of Newton

Contract Number: 12-14

City/Town: NEWTON

Description of Work: Bowen School Auditorium Roof Replacement Works

Job Location: 280 Cypress Street

Classification		Effective Dates and Total Rates					
TEST BORING DRILLER HELPER		06/01/2011	\$50.220	12/01/2011	\$51.470		
TEST BORING LABORER		06/01/2011	\$50.100	12/01/2011	\$51.350		
APPRENTICE TEST BORING LABORER (Laborers Foundation & Marine)							
Ratio	Step	1	2	3	4		
1:3	%	60.00	70.00	80.00	90.00		
Apprentice wages shall be no less than the following:							
Step 1537.74/2540.81/2543.92/4517.01							
TRACTORS/PORTABLE STEAM GENERATORS		06/01/2011	\$60.940	12/01/2011	\$61.560	06/01/2012	\$62.120
		12/01/2012	\$62.740	06/01/2013	\$63.310	12/01/2013	\$64.290
TRAILERS FOR EARTH MOVING EQUIPMENT		08/01/2011	\$46.990	12/01/2011	\$47.650	06/01/2012	\$47.950
		08/01/2012	\$48.300	12/01/2012	\$49.490		
TUNNEL WORK - COMPRESSED AIR		06/01/2011	\$62.930	12/01/2011	\$64.180		
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE)		06/01/2011	\$64.930	12/01/2011	\$66.180		
TUNNEL WORK - FREE AIR		06/01/2011	\$55.000	12/01/2011	\$56.250		
TUNNEL WORK - FREE AIR (HAZ. WASTE)		06/01/2011	\$57.000	12/01/2011	\$58.250		
VAC-HAUL		08/01/2011	\$46.410	12/01/2011	\$47.070	06/01/2012	\$47.370
		08/01/2012	\$47.720	12/01/2012	\$48.750		
WAGON DRILL OPERATOR		06/01/2011	\$50.350	12/01/2011	\$51.600		
WASTE WATER PUMP OPERATOR		06/01/2011	\$61.290	12/01/2011	\$61.920	06/01/2012	\$62.490
		12/01/2012	\$63.110	06/01/2013	\$63.890	12/01/2013	\$64.670
WATER METER INSTALLER		03/01/2011	\$67.500	09/01/2011	\$68.620	03/01/2012	\$69.420
		09/01/2012	\$70.670	03/01/2013	\$71.920		

Additional Apprentice Information:

Minimum wage rates for apprentices employed on public works projects are listed above as a percentage of the pre-determined hourly wage rate established by the Commissioner under the provisions of the M.G.L. c. 149, ss. 26-27D. Apprentice ratios are established by the Division of Apprenticeship Training pursuant to M.G.L. c. 23, ss. 11E-11L.

All apprentices must be registered with the Division of Apprenticeship Training in accordance with M.G.L. c. 23, ss. 11E-11L.

All steps are six months (1000 hours) unless otherwise specified.

- \* Ratios are expressed in allowable number of apprentices to journeymen or fraction thereof.
- \*\* Multiple ratios are listed in the comment field.
- \*\*\* APP to JM: 1:1, 2:2, 2:3, 3:4, 4:4, 4:5, 4:6, 5:7, 6:7, 6:8, 6:9, 7:10, 8:10, 8:11, 8:12, 9:13, 10:13, 10:14, etc.
- \*\*\*\* APP to JM: 1:1, 1:2, 2:3, 2:4, 3:5, 4:6, 4:7, 5:8, 6:9, 6:10, 7:11, 8:12, 8:13, 9:14, 10:15, 10:16, etc.

This wage schedule must be posted at the work site in accordance with M.G.L. ch. 149, sec. 27

Failure of the employer to pay "prevailing wage rates," which are the minimum wage rates listed above, on public works projects is a violation of M.G.L. ch. 149, sec. 27. Employees not receiving such rates should report the violation to the Office of Fair Labor and Business Practices, 100 Cambridge Street, Boston, MA 02108; Tel: 617-727-3465.

Issue Date: 08/31/2011

Wage Request Number: 20110831-012

Page 10 of 10



## **The Massachusetts Prevailing Wage Law M.G.L. ch. 149, §§ 26 – 27**

### **NOTICE TO AWARDING AUTHORITIES**

- 'The enclosed wage schedule applies only to the specific project listed at the top and will be updated for any public construction project lasting longer than one (1) year.
- 'You should request an updated wage schedule from the Division of Occupational Safety if you have not opened bids or selected a contractor within 90 days of the date of issuance of the enclosed wage schedule.
- 'The wage schedule shall be incorporated in any advertisement or call for bids for the project for which it has been issued.
- 'Once a contractor has been selected by the awarding authority, the wage schedule shall be made a part of the contract for that project.

### **NOTICE TO CONTRACTORS**

- The enclosed wage schedule, and any updated schedule, must be posted in a conspicuous place at the work site during the life of the project.
- The wages listed on the enclosed wage schedule must be paid to employees on public works projects regardless of whether they are employed by the prime contractor, a filed sub-bidder, or any sub-contractor.
- The enclosed wage schedule applies to all phases of the project including the final clean-up. Contractors whose only role is to perform final clean-up must pay their employees according to this wage schedule.
- All apprentices must be registered with the Massachusetts Division of Apprentice Training in order to be paid at the reduced apprentice rates. If a worker is not registered with the Division of Apprentice Training, they must be paid the "total rate" listed on the wage schedule regardless of experience or skill level. For further information, please call (617) 727-3486 or write to the Division of Apprentice Training, 399 Washington Street, 4th Floor, Boston, MA 02108

## WEEKLY PAYROLL RECORDS REPORT & STATEMENT OF COMPLIANCE

In accordance with Massachusetts General Law c149, §27B, a true and accurate record must be kept of all persons employed on the public works project for which the enclosed rates have been provided. A Payroll Form has been printed on the reverse of this page and includes all the information required to be kept by law. Every contractor or subcontractor is required to keep these records and preserve them for a period of three years from the date of completion of the contract.

In addition, every contractor and subcontractor is required to submit a copy of their weekly payroll records to the awarding authority. This is required to be done on a weekly basis. Once collected, the awarding authority is also required to preserve those records for three years.

In addition, each such contractor, subcontractor or public body shall furnish to the Department of Labor & Workforce Development/Division of Occupational Safety within fifteen days after completion of its portion of the work a statement, executed by the contractor, subcontractor or public body who supervises the payment of wages, in the following form:

### STATEMENT OF COMPLIANCE

\_\_\_\_\_, 2011

I, \_\_\_\_\_,  
(Name of signatory party) (Title)

do hereby state:

That I pay or supervise the payment of the persons employed by

\_\_\_\_\_ on the \_\_\_\_\_  
(Contractor, subcontractor or public body) (Building or project)

and that all mechanics and apprentices, teamsters, chauffeurs and laborers employed on said project have been paid in accordance with wages determined under the provisions of sections twenty-six and twenty-seven of chapter one hundred and forty nine of the General Laws.

Signature \_\_\_\_\_

Title \_\_\_\_\_

DIVISION OF OCCUPATIONAL SAFETY, 399 WASHINGTON STREET, 5<sup>TH</sup> FL., BOSTON, MA. 02108



## **SECTION 003126**

### **EXISTING HAZARDOUS MATERIAL INFORMATION**

#### **Part 1 - General**

##### **1.01 Description**

- A. Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy Report prepared by EMSL analytical, Inc. with an analysis date of 3/1/2011.
- B.
- C. Chain of Custody document prepared by Universal Environmental Consultants dated 02/24/11.
  
- B. Document is bound as part of this Project Manual.

**End of Section 003126**

**EMSL Analytical, Inc.**

7 Constitution Way, Suite 107, Woburn, MA 01801

Phone: (781) 933-8411 Fax: (781) 933-8412 Email: [bostonlab@emsl.com](mailto:bostonlab@emsl.com)

Ath: **Jason Becotte**  
**Universal Environmental Consultants**  
**12 Brewster Road**  
**Framingham, MA 01702**

Fax (508) 628-5488 Phone: (508) 628-5486  
Project **Bowen School; Roof; Newton, MA**

Customer ID: UEC63  
Customer PO:  
Received: 02/25/11 9:30 AM  
EMSL Order: 131100693  
EMSL Proj:  
Analysis Date: 3/1/2011

### Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
1A 131100693-0001	Auditorium Roof - Tar	Black Fibrous Homogeneous	20% Glass	80% Non-fibrous (other)	None Detected
1B 131100693-0002	Auditorium Roof - Brown Insulation	Brown Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (other)	None Detected
1C 131100693-0003	Auditorium Roof - Tar Attached to Yellow	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
1D 131100693-0004	Auditorium Roof - Yellow Foam	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
1E 131100693-0005	Auditorium Roof - Black Vapor Barrier Chips	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
2 131100693-0006	Auditorium Roof - Black Flashing	Black Fibrous Heterogeneous	20% Glass	80% Non-fibrous (other)	None Detected
3A 131100693-0007	Foyer Roof - Tar	Black Non-Fibrous Homogeneous	20% Glass	80% Non-fibrous (other)	None Detected

Initial report from 03/01/2011 09:16:59

Analyst(s)

Kevin Pine (19)

Renaldo Drakes, Laboratory Manager  
or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Use and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Woburn, MA NVLAP Lab Code 101147-0, CT PH-0315, MA AA000188, RI AAL-10773 and VT AL357102

**EMSL Analytical, Inc.**

7 Constitution Way, Suite 107, Woburn, MA 01801

Phone: (781) 933-8411 Fax: (781) 933-8412 Email: [bostonlab@emsl.com](mailto:bostonlab@emsl.com)

Attn: **Jason Becotte**  
**Universal Environmental Consultants**  
**12 Brewster Road**  
**Framingham, MA 01702**

Fax (508) 628-5488 Phone: (508) 628-5486  
Project **Bowen School; Roof; Newton, MA**

Customer ID: UEC63  
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Received: 02/25/11 9:30 AM  
EMSL Order: 131100693  
EMSL Proj:  
Analysis Date: 3/1/2011

**Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy**

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
3B 131100693-0008	Foyer Roof - Brown Insulation	Brown Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (other)	None Detected
3C 131100693-0009	Foyer Roof - Tar Attached to Yellow	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
3D 131100693-0010	Foyer Roof - Yellow Foam	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
3E 131100693-0011	Foyer Roof - Black Vapor Barrier Chips	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
4A 131100693-0012	Gym Roof - Tar	Black Fibrous Heterogeneous	20% Glass	80% Non-fibrous (other)	None Detected
4B 131100693-0013	Gym Roof - Brown Insulation	Brown Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (other)	None Detected
4C 131100693-0014	Gym Roof - Tar Attached to Yellow	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected

Initial report from 03/01/2011 09:16:59

Analyst(s)

Kevin Pine (19)

Renaldo Drakes, Laboratory Manager  
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. Woburn, MA NVLAP Lab Code 101147-0, CT PH-0315, MA AA000168, RI AAL-107T3 and VT AL357102

**EMSL Analytical, Inc.**

7 Constitution Way, Suite 107, Woburn, MA 01801

Phone: (781) 933-8411 Fax: (781) 933-8412 Email: [bostonlab@emsl.com](mailto:bostonlab@emsl.com)

Attn: **Jason Becotte**  
**Universal Environmental Consultants**  
**12 Brewster Road**  
**Framingham, MA 01702**

Fax: (508) 628-5488 Phone: (508) 628-5486

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**Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy**

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
4D 131100693-0015	Gym Roof - Yellow Insulation	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
4E 131100693-0016	Gym Roof - Vapor Barrier Chips	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
5A 131100693-0017	Gym Roof - Flashing Asphalt	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
5B 131100693-0018	Gym Roof - Flashing Adhesive	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
6 131100693-0019	Gym Roof - Flashing Tar	Black Non-Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (other)	None Detected

Initial report from 03/01/2011 09:16:59

Analyst(s)

Kevin Pine (19)

Renaldo Drakes, Laboratory Manager  
or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Use and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Woburn, MA NVLAP Lab Code 101147-0, CT PH-0315, MA AA000186, RI AAL-107T3 and VT AL357102



131100698

universal environmental consultants

12 Brewster Road  
Framingham, MA 01702Phone: 508.628.5486  
Fax: 508.628.5488

## CHAIN OF CUSTODY

BUILDING / SITE NAME: Bowen SchoolTOWN / CITY: NewtonWORK AREA: RoofSTATE: MA

Analysis Type	Turnaround Time (x)				
	6-8 Hr	12 Hr	24 Hr	48 Hr	72 hr
TEM / AHERA					
TEM / Level II					
TEM / Dust					
TEM / Bulk					
TEM / Water					
PLM				X	
Mold					
Other:					

Specific Project Notes

SAMPLE ID	MATERIAL DESCRIPTION	SAMPLE LOCATION		START	STOP	TIME	LAMIN	VOLUME
1 A	Tar	auditorium roof						
2 B	Brown insulation	"	"					
3 C	Tar attached to yellow	"	"					
4 D	yellow foam	"	"					
5 E	Black vapor barrier chips	"	"					
6 2	Black Flashing	"	"					
7 3 A	tar	fayer roof						
8 B	Brown insulation	"	"					
9 C	tar attached to yellow	"	"					
10 D	yellow foam	"	"					
11 E	Black vapor barrier chips	"	"					
12 4 A	Tar	gym roof						
13 B	Brown insulation	"	"					
14 C	Tar attached to yellow	"	"					
15 D	yellow insulation	"	"					
16 E	vapor barrier chips	"	"					
17 5 A	Flashing asphalt	"	"					
18 B	Flashing adhesive	"	"					
19 6	flashing tar	"	"					

RECEIVED

SAMPLED BY: Jason Bewick 2-24-11

DATE/TIME:

RECEIVED BY:

FEB 25 2011

DATE/TIME:

RELINQUISHED BY: Jason Bewick 2-24-11

DATE/TIME:

RECEIVED IN LAB BY:

BY: SA 0930

DATE/TIME:



## **SECTION 010300**

### **ALTERNATES**

#### **Part 1 - General**

##### **1.01 General Requirements**

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.
- B. An Alternate is an amount proposed by Bidders and stated on the Bid Form for certain items that may be added to or deducted from Base Bid amount if the Awarding Authority decides to accept a corresponding change in either the amount of construction to be complete, or in the products, materials, equipment, systems or installation methods described in the Contract documents.

##### **1.02 Bidding Instructions for Alternates**

- A. Each General Bidder shall be held fully responsible for examining the scope of the Alternates generally defined herein, and for recognizing any modifications to this work caused by any Alternate whether or not his particular trade section is mentioned therein.
- B. All sections of work which are affected by the Alternates will be considered work to be performed by the General Contractor.
- C. General Bidders shall enter a single amount in the appropriate space provided in the Bid Form.
- D. Prices for Alternates shall include overhead, profit, and all other expense items incidental to the work.
- E. Bidders shall bid on all alternates; the term "NO BID" shall not be used. If the price for an Alternate results in neither an addition nor a deduction to the Base Bid sum, the words "NO CHANGE" shall be inserted in the appropriate spaces.
- F. The Awarding Authority shall have the right to accept or reject Alternates prior to signing the Agreement. Alternates will be accepted in the order in which they are listed in this Section or on the Bid Forms.

##### **1.03 Coordination**

- A. Coordinate related work and modify or adjust adjacent work as necessary to ensure that work affected by each accepted Alternate is complete and fully integrated into the Project.
- B. Include as part of each Alternate, miscellaneous devices, accessory objects and similar items incidental to or required for a complete installation whether or not mentioned as part of the Alternate.

1.04 **Schedule of Alternates**

- A. **Deduct Alternate No. 1:** Delete Detail A1 on Drawing Sheet A-502 Roof Details and replace with Detail A2 on Drawing Sheet A-502 Roof Details. This alternate shall reuse the existing through wall flashing.

**End of Section 010300**

## SECTION 013000

### ADMINISTRATIVE REQUIREMENTS

#### 1.01 Construction Progress Schedule -CPM

- A. The Contractor shall produce within 7 days after notice of award, prepare and submit to the Architect and OPM for approval, a PDF of the schedule showing the order in which the Contractor proposes to carry on the work, with dates on which he will start the work of the several trades and the principal features of the work, and the contemplated dates for completing same. The schedule shall indicate with symbols the percentage completed at any time, and shall be based on the approved Schedule of Values as described in the General and Supplementary Conditions. The Contractor shall bring the progress schedule up to date every two weeks in a manner so as to show all work performed during the week, and shall deliver to the Architect an electronic PDF of the revised schedule together with the monthly application for payment. Also provide 2 full size color copies.
- B. The Contractor shall furnish sufficient forces, construction plant and equipment to insure the prosecution of the work in accordance with the approved progress schedule. If, in the opinion of the Architect or Owner, the Contractor falls behind in the progress schedule, Contractor shall take such steps as may be necessary to improve his progress and the Architect or Owner may require him to increase the number of shifts, days of work and/or the amount of construction plant, all without additional cost to the Owner.
- C. Submission of updated progress schedules shall be a condition precedent to each progress payment. **Provide (2) two week look a heads schedule on 11X17.**
- D. The contractor shall identify the following major milestones within the contractors detailed project schedule.
  - 1. Award of contract
  - 2. Completion of shop drawings and submittals
  - 3. Order of material
  - 4. Delivery of materials
  - 5. Mobilize on site
  - 6. Submittals
  - 7. Substantial completion
  - 8. Demobilization
  - 9. Closeout

#### 1.02 Shop Drawings, Product Data and Samples

- A. Submit PDFcopies of Shop Drawings, Product Data and Samples for all items as required by the Specifications and as directed by Architect. See General and Supplementary Conditions for additional requirements.
- B. The Contractor, within 10 days after being awarded the Contract, shall prepare and submit for the Architect's review a schedule of Shop Drawings, Product Data and Samples required to be submitted for the work. The schedule shall indicate by trade the date by which final approval of each item must be obtained, and shall be revised as required by conditions of the work, subject to Architect's review.

The Architect's review, including Consultant's review period, will not exceed 7 days from the established date of each submission indicated on the "Schedule of Shop Drawings, Product Data and Samples" plus the additional time, if any, for distribution by the Contractor and

receipt of submissions by the Architect. The Contractor is required to strictly adhere to the established schedule dates.

- C. Notes or other information on the Shop Drawings, labels, transmittals or other items submitted which are contrary to provisions of the Contract Documents shall be deemed to be addressed to the applicable Contractor, Subcontractor, vendor or other parties involved, and shall have no force or effect with respect to this Contract, even though the Shop Drawing or sample involved is reviewed by the Architect. In particular, the terms "By Others", "N.I.C.", or words of similar meaning and import on submissions shall not be deemed to imply that the referenced items are to be omitted from this Contract.
- D. Representation: By his submittal of any shop drawing or catalog data, the Contractor thereby represents that he has determined and verified all field measurements, field construction criteria, materials, dimensions, catalog numbers and similar data, or will do so, and that he has checked and coordinated each item with other applicable approved shop drawings and the Contract requirements. Certification shall appear on each shop drawing stating that the General Contractor has made this check. All drawings without this certification will be returned without examination.
- E. Deviations: Review of shop drawings, samples or catalog data by the Architect shall not authorize any deviation from the requirements of the Contract Documents, nor shall such review relieve the Contractor from responsibility for errors or omissions therein. If the shop drawings deviate, or are intended to deviate from the Contract Documents, the Contractor shall so advise the Architect in writing at the time the shop drawings are submitted, stating the difference between the Contract requirements and that denoted by the shop drawings. A brief explanation of the purpose for the change shall also accompany the deviated shop drawings. Such deviation shall not be deemed accepted by the Architect unless the Architect thereafter provides explicit written approval of such deviation.
- F. **Shop Drawings:**
1. To receive consideration by the Architect, Shop Drawings shall be accompanied by a letter of transmittal and each drawing shall contain the following information on the title block:
    - a. Project identification.
    - b. Architect's name.
    - c. Date of preparation of submission, and of revision if applicable.
    - d. Shop Drawing number and title of item the drawing refers to.
    - e. Architect's Drawing numbers and Specification paragraph number used as a reference in preparing Shop Drawing.
    - f. Contractor's and Subcontractor's name.
    - g. Names of person or firm preparing drawings.
    - h. Statement or stamp of approval by the Contractor, which shall signify that he has seen and examined the drawing and that requirements of the General Conditions have been complied with.
  2. Shop Drawings relating to various units comprising a proposed assembly shall be submitted simultaneously so that said units may be checked individually and as an assembly.
  3. All Shop Drawings shall be submitted directly to the Architect through the General Contractor. Drawings submitted directly from the Subcontractors, manufacturers or vendors, or directly to the Architect's consultants, will be returned to the Contractor without action.

4. Submit PDF copies of each Shop Drawing of standard manufactured items in the form of manufacturer's catalog sheets, showing illustrated cuts of the items to be furnished, scale details, sizes, dimensions, performance characteristics, capacities, and other pertinent information, accompanied by an appropriate transmittal form with specific reference to the applicable paragraph in the Specification. PDF copies of each will be returned to the Contractor following review by the Architect.
5. For all Shop Drawings, including wiring and control diagrams, one PDF reproducible copy of each shall be submitted. The PDF copies shall be made by the Contractor after his stamp and his comments or corrections, if any, have been affixed to the transparency. Procedure shall be as follows:
  - a. Each drawing transparency and print shall have a clear space approximately 40 square inches as an additional border on the right side or bottom of the transparency for stamps and Architect's comments.
  - b. The Architect will annotate the transparency and indicate one of the following marks as applicable.  
  
No Exceptions Taken  
Note Markings - Resubmittal Not Required  
Note Markings - Resubmittal Required  
Rejected
  - c. For drawings marked "Rejected", or "Note Markings - Resubmittal Required", the Architect will have prints made from the marked reproducible. Such prints shall be used for record purposes and for comparison with subsequent resubmissions. One will be retained by the Architect, one furnished to the applicable consultants, if any, and the transparency returned to the Contractor. Such procedures shall be followed until the Shop Drawing is marked "Note Markings - Resubmittal Not Required", or "No Exception Taken".
  - d. Drawings marked "Note Markings - Resubmittal Not Required", shall be treated as acceptable drawings. The Architect's comments shall be considered part of the original drawings. Should the Contractor disagree with such comments, he shall so notify the Architect in writing within fourteen (14) days after receipt of such drawings and before commencing work on the items in question. Failing this, the Contractor shall be deemed to have accepted full responsibility for implementing such comments at no additional cost to the Owner.
  - e. Transparencies for all drawings marked "Note Markings - Resubmittal Not Required" or "No Exceptions Taken" will be returned to the General Contractor.
  - f. When the transparency is returned by the Architect with the stamp "No Exceptions Taken" or "Note Markings - Resubmittal Not Required", the Contractor shall deliver PDF's of the corrected original to the Architect for the Architect's and Owner's use.
6. If catalog cuts of standard manufactured items show different types, options, finishes, performance requirements, or other variations, those features that the Contractor proposes to furnish shall be clearly circled or otherwise indicated, and all irrelevant diagrams, notes, or other information deleted or canceled. If any variations from the catalog description are proposed or required, such variations must be clearly noted on the cut by the Contractor. Catalog cuts of wiring diagrams will not be acceptable.
7. Shop Drawings shall clearly indicate all details, sectional views, arrangements, working and erection dimensions, kinds and quality of materials and their finishes,

6. Each sample shall have a label indicating the material represented, its place or origin, and the names of the producer, the Architect, the Contractor, the Subcontractor, and the building or work for which the material is intended. Samples shall be marked to indicate the Drawing numbers or Specification paragraph requiring the materials represented.
7. Approval of samples for color, texture, and other aesthetic qualities shall not be constructed as approval of other characteristics.

**1.03 Schedule of Values**

**A. General:**

1. Submit to the OPM and Architect for approval Schedules of Values within 10 days of receipt of Intent to Award, permit and Contract Execution.
2. Provide support values given with data that will substantiate their correctness.
3. The approved Schedule of Values will be the basis for Contractor's Application for Payment.

**B. Form of Submittal:**

1. Use Table of Contents of the Project Manual as basis for format for listing costs of work for Sections and identify each line items with number and title of Section.

**C. Preparing Schedules of Values:**

1. Itemize separate line item cost for each of the following general cost items:
  - a. Performance and Payment Bonds.
  - b. Field Supervisions and Layout.
  - c. Temporary Construction Facilities and Controls.
  - d. Mobilization
  - e. Demobilization
2. Itemize separate line item cost for work required by each Section of Specification. Sections shall be further subdivided into separate line items under each Section as required by the Architect.
3. Break down installed costs into:
  - a. Delivered cost of product.
  - b. Cost of Labor to install.
  - c. Total installed cost, with overhead and profit.
  - d. Submittals for each scope of work.
  - e. Closeout Documents for each scope of work.
4. For each line item, which has installed value of more than \$10,000.00, break down costs to list major products or operations under each item.
5. Make sum of total costs of all items listed in schedule equal to total Contract Sum.

- D. Review and Resubmittal:** After review by Architect, revise and resubmit Schedules as is required. Resubmit revised Schedules in same manner.

**End of Section**

## **SECTION 013119**

### **PROJECT MEETINGS**

#### **Part I - General**

##### **1.01 General Provisions**

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 1 - GENERAL REQUIREMENTS, which are hereby made part of this Section of the Specifications.
- B. This Section specifies requirements for Project Meetings including:
  - 1. Pre-Construction Conference
  - 2. Progress Meetings

##### **1.02 Pre-Construction Conference**

- A. The Architect will conduct a pre-construction conference after execution of the Agreement and prior to commencement of construction activities. Review responsibilities and personnel assignments.
  - 1. Attendees - The Owner, Architect and their consultants, the Contractor and its superintendent, subcontractors, suppliers, manufacturers' reps, and other concerned parties shall be represented by persons authorized to conclude matters relating to the Work.
  - 2. Agenda - Discuss significant items that could affect progress, including the tentative construction schedule, critical sequencing, use of the premises, procedures for processing Change Orders and equipment deliveries, submittals, and RFI's.

##### **1.03 Construction Conferences**

- A. The Architect will conduct construction conferences at regular interval, weekly, and will notify the Owner and Contractor of scheduled dates. Coordinate meeting dates with preparation of the payment request
  - 1. Attendees - The Owner, OPM, and Architect, each subcontractor, supplier or other entity concerned with progress or involved in planning, coordination or performance of future activities shall be represented by persons familiar with the Project and authorized to conclude matters relating to progress.
  - 2. Agenda - Review minutes of the previous progress meeting. Review significant items that could affect progress. Include topics appropriate to the current status of the Project.
  - 3. Contractor's Construction Schedule - Review progress since the last meeting. Determine where each activity is in relation to the Contractor's construction schedule, whether on time or ahead or behind schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether revisions are required to ensure that current and subsequent activities will be completed with the Contract time. Contractor shall provide a two-week look-ahead schedule for each project meeting.

4. Review the present and future needs of each entity present, including such items as:
  - a. Time
  - b. Sequences
  - c. Deliveries
  - d. Off-site fabrication problems
  - e. Site utilization
  - f. Temporary facilities and services
  - g. Hazards and risks
  - h. Quality and work standards
  - i. Change orders
  - j. Documentation of information for payment requests

#### **1.04 Reporting**

- A. No later than two (2) days after each meeting, the Architect will distribute copies of minutes of the meeting to each party present and to parties who should have been present.

**End of Section**



## SECTION 015000

### TEMPORARY FACILITIES AND CONTROLS

#### Part I - General

##### 1.01 Summary

- A. This Section specifies temporary services. Remove when no longer needed or replaced by permanent facilities. Compliance with these provisions shall be the sole responsibility of the Contractor and shall be at the sole cost and expense of the Contractor.

##### 1.02 Use Charges

- A. Cost or use charges for temporary facilities are not chargeable to the Owner or Architect and will not be accepted as a basis of claims for a Change Order. All applicable costs shall be paid by the General Contractor.

##### 1.04 Regulations

- A. Comply with applicable laws and regulations including standards set forth by the Massachusetts Department of Public Safety and the Occupational and Safety Health Act of 1970, latest revision.

##### 1.05 Standards

- A. Comply with NFPA Code 241, "Building Construction and Demolition Operations," ANSI-A10 Series standards for "Safety Requirements for Construction and Demolition." Comply with Occupational and Safety Health Act of 1970, latest revision.

##### 1.06 Conditions Of Use

- A. Keep facilities clean and neat. Operate in a safe and efficient manner. Take necessary fire prevention measures. Do not overload or permit facilities to interfere with progress. Do not allow hazardous, dangerous or unsanitary conditions or public nuisances to develop or persist on the site.

##### 1.07 Materials and Equipment

- A. Provide new materials and equipment; if acceptable to the Architect, undamaged previously used materials and equipment in serviceable condition may be used. Provide materials and equipment suitable for the use intended.
  - 1. **Lumber and Plywood** - Comply with requirements in Section "Rough Carpentry." Provide fire treated lumber and plywood for sheds and offices. Provide minimum 5/8" thick exterior plywood for other uses.
  - 2. **Tarpaulins** - Waterproof, fire-resistant, UL labeled tarpaulins with flame-spread rating of 15 or less. For temporary enclosures provide translucent nylon reinforced laminated polyethylene or polyvinyl chloride fire retardant tarpaulins.

**1.08 Dust Control**

- A. The General Contractor shall provide adequate means for the purpose of preventing dust caused by construction operations from creating a hazard, nuisance, and from entering adjacent occupied areas throughout the period of the construction contract.
- B. This provision does not supersede any specific requirements for methods of construction or applicable general conditions set forth in the Contract Articles with added regard to performance obligations of the General Contractor.

**1.09 Weather Protection and Temporary Enclosures.**

- A. It is the intent of this contract that no temporary weather protection and temporary enclosures are allowed unless it is approved by the Owner and OPM prior to construction and subject to emergency need. It is the intent of this contract that no roof area shall be removed unless its replacement is installed and made weathertight each day.
- B. The Contractor shall provide temporary enclosures and weather protection. "Weather Protection" shall mean the temporary protection of that Work adversely affected by rain, wind, and cold by covering, enclosing, and/or heating.
- C. The Contractor shall furnish and install "Weather Protection" material and be responsible for all costs, including heating required to maintain a minimum of 40 degrees Fahrenheit at the working surface. This provision does not supersede any specific requirements for methods of construction, curing of materials, or the applicable conditions set forth in the Contract Articles with added regard to performance obligations of the Contractor.
- D. Within 10 calendar days after award of the Contract, the Contractor shall submit in writing, to the Architect and OPM for approval, three (3) copies of the proposed methods for "Weather Protection."
- E. Installation of weather protection and heating devices shall comply with all safety regulations including provisions for adequate ventilation and fire protection devices.
- F. The Contractor shall provide thermometers at places designated by the Architect in order to determine if specified temperatures are being maintained.
- G. The entire responsibility for weather protection during construction, until Substantial Completion, shall be assumed by the Contractor, who shall be liable for any damage to any Work caused by failure to supply proper weather protection and proper ventilation. The Contractor shall take the necessary precautions and provide all equipment, materials and labor necessary to adequately protect the Contract Area, previous construction, the building and its contents and occupants, and surrounding landscape areas from damage due to the construction or inclement weather during construction. No storage in or within the building will be allowed and neither the Contractor nor its workmen or agents shall be permitted within the building except where necessary to install the work and the Owner's and OPM's prior permission has been obtained.
- H. Work damaged by frost shall be removed and replaced at the expense of the Contractor and as directed by the Architect.
- I. It is to be specifically understood that the Contractor shall do no work under any conditions deemed unsuitable by the Contractor to the perfect execution of the Work. This provision

shall not constitute any waiver, release, or lessening of the Contractor's obligation to bringing the Work to Substantial Completion within the period of time set forth in the Contract Documents.

- J. If during the Contract period, the Contractor is notified of insufficient weather protection, he shall, immediately, properly restore the weather protection and repair or replace any damaged unprotected materials and systems. Should the Contractor not effect immediate repair or replacement when notified, the Owner may, but shall not be obligated to, have the proper protection installed at the Contractor's expense.

#### 1.10 Temporary Construction and Support Facilities Installation

- A. Locate for each access. Maintain facilities until Substantial Completion. Remove prior to Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to the Owner.
- B. **Toilets** - Install self-contained single-occupant toilet units of the chemical aerated recirculation, or combustion type, properly vented and fully enclosed with a glass fiber reinforced polyester shell or similar nonabsorbent material. Use of pit-type privies will not be permitted.
- C. **Wash Facilities** - Install wash facilities supplied with potable water at convenient locations for personnel involved in handling materials that require wash-up. Dispose of drainage properly. Supply cleaning compounds. Provide safety showers, eye-wash fountains and similar facilities for safety and sanitation of personnel.
- D. **Drinking Water Facilities** - Provide containerized tap-dispenser bottled-water type drinking water units.
- E. **Temporary Enclosures** - Provide temporary enclosure for protection of construction from exposure, foul weather, other construction operations and similar activities. Where heat is needed and the building enclosure is incomplete, provide enclosures where there is no other provision for containment of heat. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions.
  - 1. Install tarpaulins securely, with incombustible framing. Close openings through walls, floors or roof decks and horizontal surface with load-bearing construction.
- F. **Collection and Disposal of Waste** - Collect and dispose of waste daily. Comply with NFP 241 for removal of combustible waste. Enforce requirements strictly. Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly. Dispose in a lawful manner. The Contractor shall supply adequate covered receptacles for waste, debris and rubbish, which shall be immediately removed from the site when full or more often, if necessary. The receptacles shall be located in areas approved by the Owner only. Receptacles shall not remain adjacent to the building overnight.

**Scaffolding and Staging** – Where scaffolding and staging is required for the proper installation of the Work, it shall be erected to provide a minimal impact on the site. Barriers and warning lines shall be installed at the base of any scaffolding or staging and around ground areas below elevated staging. Overhead protection shall be provided where walkways pass through work areas. All scaffolding and staging shall be erected in conformance with all applicable state, federal and local codes.

- G. **Preparatory Work by the Contractor** – The Contractor will protect the building contents below work areas where the work requires interior access as follows. The Contractor shall

cover open shelving, office and classroom equipment, and furniture, mask openings to closets, encased bookshelves, cabinets and similar fixed storage areas. No fixtures or appliances will be protected by the Owner. Upon completion of the work, the Contractor shall remove all masking and protection and clean and restore the area to the satisfaction of the Owner, cleaning, repairing and replacing all soiled, stained or damaged floor areas.

- H. **Signs** –the contractor shall conspicuously post a project sign at ground level. This sign shall designate the project entrance. Only one (1) entry may be used by the Contractor. The entry location shall be as directed by the Owner.
- I. **MSBA Green Repair Project Sign** – The general contractor shall provide at their expense a sign during the period of construction, four feet by eight feet in size, post mounted and set in concrete footings, in a location visible from the primary roadway, and shall include the following: "This project funded in part by the Massachusetts School Building Authority". It shall also include the full name of the Chairman of the MSBA Authority's Board and the Authorities Executive Director, it shall also include the title of the project, the awarding authority and building committee members, the contractor, the architect, and the owner's project manager.
- J. **Parking** – The Owner may designate parking locations for Contractor's employees, personnel and vehicles. See Site Plan for designated area.

#### 1.11 Security and Protection Facilities Installation

- A. **Fire Extinguisher** - Provide hand-carried, portable, UL rated, class "ABC" dry chemical extinguishers. Locate fire extinguishers where effective for the intended purpose, but not less than one on each floor near each usable stairwell.
  - 1. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire protection facilities, stairways and other access routes for fighting fires. Prohibit smoking hazardous fire exposure areas.
  - 2. Store combustible materials in containers in fire-safe locations.
- B. **Barricades, Warning Signs and Lights** - Comply with standard and code requirements for erection of barricades. Paint appropriate warning signs to inform personnel and the public of the hazard being protected against. Where needed, provide temporary fencing, barricades, warning lines, barriers and the like, as required to segregate the construction areas from existing facilities, occupants and the public. Also, where needed, provide lighting, including flashing lights.
- C. **Security Enclosure and Lockup** - Install temporary enclosure of partially completed areas of construction. Provide locking entrances to prevent unauthorized entrance, vandalism and theft. Where materials and equipment must be stored, provide a secure lockup. The Owner is not responsible for Contractor's losses due to damage or theft by vandals.

#### 1.12 Termination and Removal

- A. Remove each facility when the need has ended, or replaced by a permanent facility, or no later than Substantial Completion. Complete or restore construction delayed because of interference with the facility. Repair damaged work, clean exposed surfaces and replace construction that cannot be satisfactorily repaired.
- B. Temporary facilities are property of the Contractors.

#### End of Section 015000

## SECTION 016000

### PRODUCT REQUIREMENTS

#### Part I - General

##### 1.01 Products

- A. Products are items purchased for incorporation in the Work, whether purchased for the Project taken from previously purchased stock.

1. **Named Products** - are items identified by manufacturer's product name, including make or model designation indicated in the manufacturer's product literature.

##### 1.02 Materials

- A. Materials are products that are shaped, cut, worked, mixed, finished, refined or otherwise fabricated, processed or installed to form a part of the Work.

##### 1.03 Equipment

- A. Equipment is a product with operational parts, whether motorized or manually operated, that requires service connections such as wiring or piping. Where each activity is in relation to the Contractor's construction schedule, whether on time or ahead or behind schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether revisions are required to ensure that current and subsequent activities will be completed with the Contract time.

##### 1.04 Source Limitations

- A. To the fullest extent possible, provide products of the same kind, from a single source.
1. When the Contractor has the option of selection between two or more products, the product selected shall be compatible with products previously selected.

##### 1.05 Nameplates

- A. Except for required labels and operating data, do not attach manufacturer's nameplates or trademarks on surfaces exposed to view in occupied spaces or on the exterior.
1. **Equipment Nameplates** - Provide a permanent nameplate on each item of service-connected or power-operated equipment. Locate on an inconspicuous accessible surface. The nameplate shall contain the following information and essential operating data.

##### 1.06 Product Deliver, Storage And Handling

- A. Deliver, store, and handle products in accordance with manufacturer's recommendations, using methods that will prevent damage, deterioration and loss.
1. Schedule delivery to minimize long-term storage and prevent overcrowding construction spaces. Coordinate with installation to ensure minimum holding time for items that are flammable, hazardous, easily damaged or sensitive to deterioration, theft, and other losses.
  2. Deliver products in manufacturer's original sealed container or packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.

3. Inspect products on delivery to ensure compliance with Contract Documents and to ensure that products are undamaged and properly protected.
4. Store products to facilitate inspection and measurement of quantity or counting of units. Store heavy materials away from the structure in a manner that will not endanger supporting construction.
5. Store products subject to damage by the elements above ground, under cover in a weather tight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required by manufacturer's instructions.
6. All flammable substances shall be brought to the site daily and unused materials removed at the end of the workday.
7. In the event that materials are exposed to the elements, they shall be marked as unacceptable and immediately removed from the site. They may not be used.
8. On-site storage of materials are the responsibility of the Contractor. The Owner is not responsible for Contractor's losses due to damage or vandalism.

#### **1.07 Product Selection**

- A. Provide products that comply with the Contract Documents, are undamaged and unused at installation. Provide products complete with all accessories, trim, and finish, safety guards and other devices and details needed for a complete installation and for the intended use.

#### **1.08 Standard Products**

- A. Where available, provide standard products of types that have been produced and used successfully in similar situations on other projects.

#### **1.09 Non-Proprietary Specifications**

- A. When Specifications list products or manufacturers that are available and may be used but do not restrict the Contractor to use of these products only, the Contractor may propose any product that complies with Contract requirement.

#### **1.10 Descriptive Specification Requirements**

- A. Where Specifications describe a product, listing characteristics required with or without use of brand name, provide a product that provides the characteristics and otherwise complies with requirements.
  1. **Visual Matching** - Where Specifications require matching a sample, the Architect's decision on whether a proposed product matches in final. Where no product matches and complies with other requirements, comply with provisions for substitutions" for selection of a matching product in another category.
  2. **Visual Selection** - Where requirements include the phrase "... as selected from manufacturer's standard colors, patterns, textures " or a similar phrase, select a product that complies with other requirements. The Architect will select color, pattern, and texture from the product line selected.

#### **1.11 Installation of Products**

- A. Comply with manufacturer's instructions and recommendations for installation of products. Anchor each product securely in place, accurately located and aligned with other Work. Clean exposed surfaces and protect to ensure freedom from damage and deterioration at time of Substantial Completion.

#### **End of Section**

4. Handle materials in a controlled manner with as few handlings as possible. Do not drop or throw materials from heights.
5. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet, newly painted surfaces.

**E. Dust Control:**

1. Wet down dry materials and rubbish to control dust and prevent blowing dust.
2. Clean interior spaces prior to the start of finish painting and continue cleaning on an as needed basis until painting is finished.

**F. Final Cleaning:**

1. Repair, patch and touch up marred surfaces to specified finish, to match adjacent surfaces.
2. Prior to final completion, or Owner occupancy, Contractor shall conduct an inspection of site-exposed interior and exterior surfaces, and all work areas, to verify that the entire Work is clean.
3. Broom clean exterior paved surfaces and rake clean other surfaces of the grounds which have been soiled by the Contractor's operations.

**1.05 Maintenance Manuals and Instructions**

- A. The Contractor shall, upon Substantial Completion of the work, submit rough drafts of maintenance schedules, maintenance manuals, and all approved Shop Drawings, presenting full details for care and maintenance of visible surfaces and all equipment furnished and installed under the Contract.
- B. Maintenance shall consist of manufacturers' catalog cuts with descriptive information, lubricating and maintenance instructions, parts lists, usage instructions, names, addresses and telephone numbers where replacement parts and service can be quickly obtained, and all other information required for the Owner to use, maintain, and service the items properly.
- C. Upon the Architect's approval of drafts, submit three (3) corrected copies properly bound in a logical and well arranged order, with an index, for the Owner's use.

**1.06 Warranties and Bonds**

- A. **General:** Compile specified warranties and bonds, review to verify compliance with Contract Documents, and submit to the Architect for his review and transmittal to the Owner.
- B. **Submittal Requirements:**
  1. Assemble two original signed copies of warranties, bonds and service and maintenance contracts, executed by Officers of each of the respective manufacturers, suppliers, and subcontractors.
  2. Table of Contents: Neatly typed, in orderly sequence. Provide complete information for each item.
    - a. Product or work item.
    - b. Firm, with name of principal, address and telephone number.
    - c. Scope.
    - d. Date of beginning of warranty, bond or service and maintenance contract will commence upon date of Substantial Completion as established by the Architect.
    - e. Duration of warranty, bond or service maintenance contract.
    - f. Provide information for Owner's personnel:
      1. Proper procedure in case of failure.
      2. Instances which might affect validity of warranty or bond.

g. Contractor, name of responsible principal, address and telephone number.

C. **Form of Submittals:** Prepare in duplicate packets and in the following format:

1. Size 8-1/2 inch by 11 inch; punch sheets for 3-ring binder. Fold larger sheets to fit into binders.
2. Cover: Identify each packet with typed or printed title "WARRANTIES AND BONDS". List Title or Project and Name of Contractor.
3. Binders: Commercial quality, three ring, with durable and cleanable plastic covers.

D. **Time of Submittals:**

1. For equipment or component parts of equipment put into service during progress of construction, submit documents within ten days after inspection and acceptance. Otherwise, make submittals within ten days after acceptance, listing the date of acceptance as the start of warranty period.

E. **Submittals Required:** Submit warranties, bonds, and service and maintenance contracts as specified in the respective Sections of the Specifications.

#### 1.06 Closeout Requirements

A. **Punch List:** When the Architect reviews the work for Substantial Completion, he will prepare and issue to the Contractor a "punch list" of items to be corrected before final payment will be made. Such punch list shall not be construed as all-inclusive of the work, which the Contractor will be required to perform before final payment.

B. **Substantial Completion:** Architect will prepare and issue a Certificate of Substantial Completion, A.I.A. G704, complete with signatures of Owner and Contractor, accompanied by list of items to be completed or corrected, as verified and amended by the Architect.

C. **Final Inspection:**

1. Contractor shall submit written certification that:
  - a. Contract Documents have been reviewed.
  - b. Project has been inspected for compliance with Contract Documents.
  - c. Work has been completed in accordance with Contract Documents.
  - d. Equipment and systems have been tested in the presence of Owner's Representative and are operational.
  - e. Project is completed, and ready for final inspection.
2. Architect will begin final inspection within seven days after receipt of certification.
3. Should the Architect consider the Work is finally complete in accordance with requirements of Contract Documents, he shall request Contractor to make Project Closeout submittals.
4. Should the Architect consider that work is not finally complete:
  - a. He shall notify Contractor, in writing, stating reasons.
  - b. Contractor shall take immediate steps to remedy the stated deficiencies, and send second written notice to the Architect certifying that Work is complete.
  - c. Architect will inspect the Work

D. **Closeout Submittals:**

1. Project Record Documents.
2. Operating and Maintenance Data.
3. Extended Guarantees and Warranties.



**E. Evidence of Payments, and Release of Liens:**

1. Contractor's Affidavit of Payment of Debts and Claims, AIA G706.
2. Contractor's Affidavit of Release of Liens, AIA G706A, with:
  - a. Consent of Surety to Final Payment: AIA G707.
  - b. Contractor's release or waiver of liens.
  - c. Separate releases or waivers of liens for subcontractors, suppliers and others with lien rights against property of Owner, together with list of those parties.
3. All submittals shall be duly executed before delivery to the Architect.

**F. Final Application and Certificate for Payment:**

1. Contractor shall submit final application in accordance with requirements of General and Supplementary Conditions.
2. Architect will issue final certificate in accordance with provisions of Conditions of the Contract.
3. **NOTE:** Prior to issuance of the Certificate for Final Payment by the Architect, all requirements contained in this Paragraph entitled "Closeout Requirements" and other requirements of the Conditions of the Contract shall be executed, received and approved by the Architect.

**End of Section**

## SECTION 024100

### DEMOLITION

#### PART 1 - General

##### 1.1 General Provisions

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS, which are hereby made a part of this Section of the Specifications.

##### 1.2 Description of Work

- A. Work Included:
1. Demolition and removal of (3) three roofing systems: roof membranes, membrane flashings, insulation, and sheet metal flashings as required for new work shall be performed by or coordinated and supervised by the roofing contractor. Demolition of the existing roofing system should be phased and planned as to remove only as much roofing that can be roofed with membrane and insulation system and made watertight in the same day.
  2. The existing roofing and flashing was sampled and tested and there was no asbestos present. Test results are attached within this Project Manual.
  3. Removal and legally disposal of demolished materials off site. Except those items specifically designated to be relocated, reused, or turned over to the facility, all existing removed materials, items, trash and debris shall become property of the Contractor and shall be completely removed from the site and legally disposed of at their expense. Salvage value belongs to the Contractor. On-site sale of materials is not permitted.
  4. Scheduling and sequencing operations without interrupting utilities serving occupied areas. If interruption is required, obtain written permission from the utility company and *Newton Public Schools*. Provide temporary services as necessary to serve occupied and usable facilities when permanent utilities must be interrupted, or schedule interruption when the least amount of inconvenience will result.
- B. Alternates: Alternates are identified in Detail A2 on Drawing Sheet A-502 Roof Details. See Section 010300 - Alternates
- C. Related Work: The following items are not included in this Section and will be performed under the designated Sections:
1. Section 015000 - Temporary Facilities and Controls
  2. Section 061000 - Rough Carpentry
  3. Section 075100 - Cold Process Built-up Roofing

##### 1.3 Definitions

- A. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.

- B. Remove and Salvage: Detach items from existing construction and deliver them to the *Newton Public Schools* ready for reuse, at a location designated by the *Newton Public Schools*.
- C. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated. Protect from weather until reinstallation.
- D. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

#### **1.4 Submittals**

- A. Schedule of Selective Demolition Activities: Indicate the following:
  - 1. Detailed sequence of selective demolition and removal work, with early and late starting and finishing dates for each activity. Ensure *Bowen Elementary School* on-site operations are uninterrupted.
  - 2. Interruption of utility services. Indicate how long utility services will be interrupted.
  - 3. Coordination for shutoff, capping, and continuation of utility services.
  - 4. Coordination of *Bowen Elementary School* continuing occupancy of portions of existing building.
  - 5. Means of protection for roof areas to remain, items to remain, and items in path of waste removal from building.
- B. Inventory: After selective demolition is complete, submit a list of items that have been removed and salvaged, and turned over the *Newton Public Schools*.
- C. Landfill Records: Provide trip tickets (receipts) indicating receipt and acceptance of wastes by a landfill facility licensed to accept such wastes.

#### **1.5 Quality Assurance**

- A. Examination of Existing Conditions: The Contractor shall examine the Contract Drawings for demolition and removal requirements and provisions for new work. Verify all existing conditions and dimensions before commencing work. The Contractor shall visit the site and examine the existing conditions as he finds them and shall inform herself/himself of the character, extent and type of demolition and removal work to be performed. Submit any questions regarding the extent and character of the demolition and removal work in the manner and within the time period established for receipt of such questions during the bidding period.
- B. Refrigerant Recovery Technician Qualifications: Certified by an EPA-approved certification program.
- C. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- D. Standards: Comply with ANSI A10.6 and NFPA 241.
- E. Pre-demolition Conference: Conduct conference at Project site. Review methods and procedures related to selective demolition including, but not limited to, the following:

1. Inspect and discuss condition of construction to be selectively demolished.
2. Review structural load limitations of existing structure.
3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
5. Review areas where existing construction is to remain and requires protection.

#### **1.6 Warranty**

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.

### **PART 2 - Products (Not Used)**

### **PART 3 - Execution**

#### **3.1 Examination**

- A. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- B. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.
- C. Survey of Existing Conditions: Record existing conditions by use of preconstruction videotapes.
  1. Before selective demolition or removal of existing building elements that will be reproduced or duplicated in final Work, make permanent record of measurements, materials, and construction details required to make exact reproduction.
- D. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

#### **3.2 Preparation**

- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
  1. Comply with requirements for access and protection specified in Section 015000 - Temporary Facilities and Controls.
  2. Maintain adequate passage to and from all exits at all times. Under no condition block or interfere with the free flow of people at legally required exits, or in any way alter the required condition of such exits.

- B. Conduct demolition operations to prevent injury to people and damage to adjacent buildings and facilities to remain. Ensure safe passage of people around demolition area(s).
  - 1. Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction. Provide temporary barricades as required to limit access to demolition areas.
  - 2. Protect existing site improvements, appurtenances, and landscaping to remain.
  - 3. Protect existing roofing to remain.

### 3.3 Selective Demolition, General

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
  - 1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each roof before disturbing the next lower roof level.
  - 2. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, roof, or framing.
  - 3. Dispose of demolished items and materials promptly.
- B. **Removed and Reinstalled Items**
  - 1. Clean and repair items to functional condition adequate for intended reuse. Paint equipment to match new equipment.
  - 2. Pack or crate items after cleaning and repairing. Identify contents of containers.
  - 3. Protect items from damage during transport and storage.
  - 4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- C. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Designer, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

### 3.4 Protection of Public and Property

- A. Provide all measures required by federal, state and municipal laws, regulations, and ordinances for the protection of surrounding property, the public, workmen, and *Bowen Elementary School* during all demolition and removal operations. Measures are to be taken, but not limited to installation of sidewalks, sheds, barricades, fences, warning lights and signs, trash chutes and temporary lighting.
- B. Protect all walks, roads, streets, curbs, pavements, trees and plantings, on and off premises, and bear all costs for correcting such damage as directed by the Architect, and to the satisfaction of the *Newton Public Schools*.
- C. Demolition shall be performed in such a manner that will insure the safety of adjacent property. Protect adjacent property from damage and protect persons occupying adjacent property from

injuries which might occur from falling debris or other cause and so as not to cause interference with the use of other portions of the building, of adjacent buildings or the free access and safe passage to and from the same.

### **3.5 Discovery of Hazardous Materials**

- A. If hazardous materials, such as chemicals, asbestos-containing materials, or other hazardous materials are discovered during the course of the work other than those identified in these construction documents, cease work in affected area only and immediately notify the Architect and the *Newton Public Schools* of such discovery. Do not proceed with work in such areas until instructions are issued by the Architect. Continue work in other areas.

### **3.6 Disposal of Demolished Materials**

- A. Do not allow demolished materials to accumulate on-site.
- B. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- C. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent and with no airborne particles.
- D. Remove debris from site each day.
- E. Burning: Do not burn demolished materials.

### **3.7 Cleaning**

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Premises shall be left in a clean condition and ready to accept alteration work and new construction.

**End of Section 024100**

## **SECTION 042100**

### **MASONRY REMOVAL and REPLACING**

#### **PART 1 - GENERAL**

##### **1.1 GENERAL PROVISIONS**

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

##### **1.2 DESCRIPTION OF WORK (Note: Alternate No. 1 Deletes Scope of Masonry Work).**

- A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
1. Removal and replacement of (5) Five courses high in two wythes of brick masonry for installation of Through-wall flashings at roof to wall detail.
  2. Hoisting Equipment: The Masonry subcontractor shall furnish, install and maintain in safe and adequate condition all mechanical hoisting equipment, operating personnel and rigging that is necessary for the proper execution of the Work of this Section.
  3. Staging, Planking and Scaffolding: The Masonry subcontractor shall furnish, install and maintain in safe and adequate condition, all staging, planking and scaffolding up to eight feet in height that is necessary for the proper execution of the Work in this Section.
  4. Provide temporary roof protection during masonry work.
  5. Alternates: Alternates are identified in Detail A2 on Drawing Sheet A-502 Roof Details. See Section 010300 - Alternates
- B. Related Work: The following items are not included in this Section and will be performed under the designated Sections:
1. Section 072000 Roof Insulation
  2. Section 075200 Cold Process Built up Roofing
  3. Section 076000 Flashing and Sheet Metal

##### **1.3 SUBMITTALS**

- A. Product Data: For each type of product indicated.
- B. Samples for Verification: For each type and color of the following:
1. Face brick, in the form of straps of five or more bricks.

2. Pigmented mortar. Make Samples using same sand and mortar ingredients to be used on Project. Label Samples to indicate types and amounts of pigments used.
  3. Weep holes/vents.
- C. Material Certificates: Include statements of material properties indicating compliance with requirements including compliance with standards and type designations within standards. Provide for each type and size of the following:
1. Masonry units:
    - a. Include material test reports substantiating compliance with requirements.
    - b. For bricks, include size-variation data verifying that actual range of sizes falls within specified tolerances.
    - c. For exposed brick, include material test report for efflorescence according to ASTM C 67.
  2. Cementitious materials. Include brand, type, and name of manufacturer.
  3. Mortar mixes. Include description of type and proportions of ingredients.
  4. Anchors, ties, and metal accessories.
- D. Mix Designs: For each type of mortar and grout. Include description of type and proportions of ingredients.
1. Include test reports, per ASTM C 780 for mortar mixes required to comply with property specification.
  2. Include test reports, per ASTM C 1019 for grout mixes required to comply with compressive strength requirement.

#### **1.4 QUALITY ASSURANCE**

- A. Testing Agency Qualifications: An independent agency qualified according to ASTM C 1093 for testing indicated, as documented according to ASTM E 548.
- B. Source Limitations for Masonry Units: Obtain exposed masonry units of a uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, through one source from a single manufacturer for each product required.
- C. Source Limitations for Mortar Materials: Obtain mortar ingredients of a uniform quality, including color for exposed masonry, from a single manufacturer for each cementitious component and from one source or producer for each aggregate.
- D. Preconstruction Testing Service: The Owner's Project Manager will engage a qualified independent testing agency to perform preconstruction testing indicated below. Payment for



these services will be made by the Owner's Project Manager. Retesting of materials that fail to meet specified requirements shall be done at Contractor's expense.

1. Prism Test: For each type of construction required, per ASTM C 1314.

- F. Sample Panels: Build sample panels to verify selections made under sample submittals and to demonstrate aesthetic effects.
- G. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01. Agenda shall include protection of air barrier membrane during construction.

#### **1.5 DELIVERY, STORAGE, AND HANDLING**

- A. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.
- B. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.
- C. Deliver preblended, dry mortar mix in moisture-resistant containers designed for lifting and emptying into dispensing silo. Store preblended, dry mortar mix in delivery containers on elevated platforms, under cover, and in a dry location.

#### **1.6 PROJECT CONDITIONS**

- A. Protection of Air Barrier Membrane: During construction, protect air barrier membrane from penetrations which allow air to pass through air barrier assemblies. Engage original installer to repair damage promptly using identical materials and methods of installation.
  - 1. Extend cover a minimum of 24 inches down both sides and hold cover securely in place.
  - 2. Where 1 wythe of multiwythe masonry walls is completed in advance of other wythes, secure cover a minimum of 24 inches down face next to unconstructed wythe and hold cover in place.
- B. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry to be left exposed. Immediately remove grout, mortar, and soil that come in contact with such masonry.
  - 1. Protect base of walls from rain-splashed mud and from mortar splatter by spreading coverings on ground and over wall surface.
- C. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

### **PART 2 - PRODUCTS**

#### **2.1 BRICK**

- A. Reuse the removed Bricks that are not damaged.

B. Face Brick: ASTM C 216, Grade SW, Type FBS.

1. Initial Rate of Absorption: Less than 30 g/30 sq. in. per minute when tested per ASTM C 67.
2. Efflorescence: Provide brick that has been tested according to ASTM C 67 and is rated "not effloresced."
3. Where shown to "match existing," provide face brick matching color range, texture, and size of existing adjacent brickwork.

**2.2 MORTAR AND GROUT MATERIALS**

- A. Portland Cement: ASTM C 150, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated.
- B. Hydrated Lime: ASTM C 207, Type S.
- C. Mortar Pigments: Natural and synthetic iron oxides and chromium oxides, compounded for use in mortar mixes. Use only pigments with a record of satisfactory performance in masonry mortar.
1. Available Products:
    - a. LanXess; Bayferrox Iron Oxide Pigments.
    - b. Solomon Grind-Chem Services, Inc.; SGS Mortar Colors.
- D. Aggregate for Mortar: ASTM C 144. For mortar that is exposed to view, use washed aggregate consisting of natural sand or crushed stone.
- E. Aggregate for Grout: ASTM C 404.
- F. Water: Potable.

**2.3 REINFORCEMENT**

- A. Uncoated Steel Reinforcing Bars: ASTM A 615/A 615M or ASTM A 996/A 996M, Grade 60.
- B. Masonry Joint Reinforcement, General: ASTM A 951.
1. Exterior Walls: Hot-dip galvanized, carbon steel.
  2. Wire Size and Spacing: As required by Code.
  3. Provide in lengths of not less than 10 feet, with prefabricated corner and tee units.

## **2.4 TIES AND ANCHORS**

- A. **Materials:** Provide ties and anchors specified in subsequent paragraphs that are made from materials that comply with subparagraphs below, unless otherwise indicated.
1. Hot-Dip Galvanized, Carbon-Steel Wire: ASTM A 82; with ASTM A 153/A 153M, Class B-2 coating.
  2. Products:
    - a. Hohmann & Bernard 2-Seal Tie sized for cavity wall insulation and sheathing thickness and 2-Seal Byna-Lok wire tie sized for air space and brick.

## **2.5 EMBEDDED FLASHING MATERIALS**

- A. **Metal Flashings:** Furnished under Section 076200 - SHEET METAL FLASHING AND TRIM.

## **2.6 MISCELLANEOUS MASONRY ACCESSORIES**

- A. **Compressible Filler:** Premolded filler strips complying with ASTM D 1056, Grade 2A1; compressible up to 35 percent; of width and thickness indicated; formulated from neoprene.
- B. **Weep/Vent Products:** Free-draining mesh; made from polyethylene strands, full height and width of head joint in brick and depth 1/8 inch less than depth of outer wythe; in color selected from manufacturer's standard.
- C. **Cavity Drainage Material:** Free-draining mesh, made from polymer strands that will not degrade within the wall cavity. Provide strips, full-depth of cavity and 10 inches wide, with dovetail shaped notches 7 inches deep that prevent mesh from being clogged with mortar droppings or equivalent. Available products:
1. Mortar Net USA, Ltd.; Mortar Net.

## **2.7 MASONRY CLEANERS**

- A. **Proprietary Acidic Cleaner:** Manufacturer's standard-strength cleaner designed for removing mortar/grout stains, efflorescence, and other new construction stains from new masonry without discoloring or damaging masonry surfaces. Use product expressly approved for intended use by cleaner manufacturer and manufacturer of masonry units being cleaned.
1. **Available Manufacturers:**
    - a. Diedrich Technologies, Inc.
    - b. EaCo Chem, Inc.
    - c. ProSoCo, Inc.

## **2.8 MORTAR AND GROUT MIXES**

- A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures, unless otherwise indicated.
  - 1. Do not use calcium chloride in mortar or grout.
  - 2. Limit cementitious materials in mortar to portland cement[, mortar cement,] and lime.
- B. Mortar for Unit Masonry: Comply with ASTM C 270, Proportion Specification. Provide the following types of mortar for applications stated unless another type is indicated[ or needed to provide required compressive strength of masonry].
  - 1. For reinforced masonry, use Type S.
- C. Grout for Unit Masonry: Comply with ASTM C 476.
  - 1. Use grout of type indicated or, if not otherwise indicated, of type (fine or coarse) that will comply with Table 1.15.1 in ACI 530.1/ASCE 6/TMS 602 for dimensions of grout spaces and pour height.
  - 2. Provide grout with a slump of 8 to 11 inches as measured according to ASTM C 143/C 143M.

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work.
  - 1. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of work.
- B. Before installation, examine rough-in and built-in construction for piping systems to verify actual locations of piping connections.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

### **3.2 INSTALLATION, GENERAL**

- A. Thickness: Build cavity and composite walls and other masonry construction to full thickness shown. Build single-wythe walls to actual widths of masonry units, using units of widths indicated.
- B. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut

units with cut surfaces and, where possible, cut edges concealed. Do not use units cut to less than one-half size.

- C. Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures. Mix units from several pallets or cubes as they are placed.
- D. Matching Existing Masonry: Match coursing, bonding, color, and texture of existing masonry.
- E. Comply with construction tolerances in ACI 530.1/ASCE 6/TMS 602 and with the following:
  - 1. For conspicuous horizontal lines, such as lintels, sills, parapets, and reveals, do not vary from level by more than 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2 inch maximum.
  - 2. For exposed bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch, with a maximum thickness limited to 1/2 inch. Do not vary from bed-joint thickness of adjacent courses by more than 1/8 inch.

### **3.3 LAYING MASONRY WALLS**

- A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement-type joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations.
- B. Bond Pattern for Exposed Masonry: Unless otherwise indicated, lay exposed masonry in running bond; do not use units with less than nominal 4-inch horizontal face dimensions at corners or jambs. Prior to installation review bond pattern with Designer.
- C. Stopping and Resuming Work: Stop work by racking back units in each course from those in course below; do not tooth. When resuming work, clean masonry surfaces that are to receive mortar, remove loose masonry units and mortar, and wet brick if required before laying fresh masonry.

### **3.4 MORTAR BEDDING AND JOINTING**

- A. Lay solid masonry units with completely filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place. Do not deeply furrow bed joints or slush head joints.
- B. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness, unless otherwise indicated.

### **3.5 CAVITY WALLS**

- A. Bond wythes of cavity walls together using the following method:
  - 1. Masonry Veneer Anchors: Comply with requirements for anchoring masonry veneers.

- B. Keep cavities clean of mortar droppings and other materials during construction. Bevel beds away from cavity, to minimize mortar protrusions into cavity. Do not attempt to trowel or remove mortar fins protruding into cavity.

### **3.6 INSTALLATION OF CAVITY-WALL INSULATION**

- A. On units of foam-plastic board insulation, install pads of adhesive spaced approximately 24 inches o.c. both ways on inside face, and as recommended by manufacturer. Fit courses of insulation between wall ties (if applicable) and other obstructions, with edges butted tightly in both directions. Press units firmly against inside substrates indicated. Fill gaps with compatible insulating material.

### **3.7 MASONRY JOINT REINFORCEMENT**

- A. General: Install entire length of longitudinal side rods in mortar with a minimum cover of 5/8 inch on exterior side of walls, 1/2 inch elsewhere. Lap reinforcement a minimum of 6 inches. Space reinforcement not more than 16 inches o.c.
- B. Interrupt joint reinforcement at control and expansion joints, unless otherwise indicated.

### **3.8 ANCHORING MASONRY VENEERS**

- A. Anchor masonry veneers with masonry-veneer anchors to comply with the following requirements:
  - 1. Fasten screw-attached anchors through insulation and sheathing to wall framing as applicable with metal fasteners of type indicated.
  - 2. Embed tie sections in masonry joints. Provide air space indicated on the Drawings between back of masonry veneer and face of insulation.
  - 3. Locate anchor sections to allow maximum vertical differential movement of ties up and down.
  - 4. Space anchors as required by Code.

### **3.9 FLASHING, WEEP HOLES, CAVITY DRAINAGE, AND VENTS**

- A. General: Install embedded flashing and weep holes in masonry at shelf angles, lintels, ledges, other obstructions to downward flow of water in wall, and where indicated.
- B. Install flashing as follows, unless otherwise indicated:
  - 1. Prepare masonry surfaces so they are smooth and free from projections that could puncture flashing. Where flashing is within mortar joint, place through-wall flashing on sloping bed of mortar and cover with mortar. Before covering with mortar, seal penetrations in flashing with adhesive, sealant, or tape as recommended by flashing manufacturer.

2. At multiwythe masonry walls, including cavity walls, extend flashing through outer wythe, turned up a minimum of 8 inches, and 1-1/2 inches into the inner wythe. Form 1/4-inch hook in edge of flashing embedded in inner wythe.
  3. At masonry-veneer walls, extend flashing through veneer, across air space behind veneer, and up face of sheathing at least 8 inches; with upper edge covered with elastomeric membrane, lapping at least 4 inches.
- C. Install weep holes in head joints in exterior wythes of first course of masonry immediately above embedded flashing and as follows:
1. Use open head joints to form weep holes.
  2. Space weep holes 24 inches o.c., unless otherwise indicated.
- D. Place cavity drainage material in cavities to comply with configuration requirements for cavity drainage material in Part 2 "Miscellaneous Masonry Accessories" Article.

### **3.11 MASONRY WASTE DISPOSAL**

- E. Salvageable Materials: Unless otherwise indicated, excess masonry materials are Contractor's property. Remove excess masonry materials and legally dispose of off the Site.
- F. Masonry Waste: Remove masonry waste and legally dispose of off the Site.

### **END OF SECTION**

## **SECTION 061000**

### **ROUGH CARPENTRY**

#### **PART 1 - General**

##### **1.1 General Provisions**

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

##### **1.2 Description of Work**

- A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
1. Wood blocking.
  2. Plywood.
  3. Rooftop equipment bases and support curbs.
- B. Alternates: Alternates are identified in Detail A2 on Drawing Sheet A-502 Roof Details. See Section 010300 - Alternates
- C. Related Work: The following items are not included in this Section and will be performed under the designated Sections:
1. Section 015000 - Temporary Facilities and Controls
  2. Section 024100 - Demolition
  3. Section 075100 - Cold Process Built-up Roofing.
  4. Section 076000 Flashings and Sheet Metal

##### **1.3 Submittals**

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used, net amount of preservative retained, and chemical treatment manufacturer's written instructions for handling, storing, installing, and finishing treated material.
  2. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.
  3. Include copies of warranties from chemical treatment manufacturers for each type of treatment.



#### **1.4 Delivery, Storage, and Handling**

- A. Stack lumber, plywood, and other panels; place spacers between each bundle to provide air circulation. Provide for air circulation around stacks and under coverings.

### **PART 2 - Products**

#### **2.1 Wood Products, General**

- A. Lumber: DOC PS 20 and applicable rules of lumber grading agencies certified by the American Lumber Standards Committee Board of Review.
  - 1. Factory mark each piece of lumber with grade stamp of grading agency.
  - 2. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
  - 3. Provide dressed lumber, S4S, unless otherwise indicated.
  - 4. Provide dry lumber with 15 percent maximum moisture content at time of dressing for 2-inch nominal thickness or less, unless otherwise indicated.

#### **B. Plywood Panels**

- 1. Plywood: Either DOC PS 1 or DOC PS 2, unless otherwise indicated.
- 2. Thickness: As needed to comply with requirements specified but not less than thickness indicated.
- 3. Factory mark panels according to indicated standard.

#### **2.2 Wood-Preservative-Treated Materials**

- A. Preservative Treatment by Pressure Process: AWPAC2 (lumber) and AWPAC9 (plywood), except that lumber that is not in contact with the ground and is continuously protected from liquid water may be treated according to AWPAC31 with inorganic boron (SBX).
  - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and not containing arsenate.
- B. Kiln-dry material after treatment to a maximum moisture content of 19 percent for lumber and 15 percent for plywood. Do not use material that is warped or does not comply with requirements for untreated material.
- C. Mark each treated item with the treatment quality mark of an inspection agency approved by the American Lumber Standards Committee Board of Review.
- D. Application: Treat items indicated on Drawings, and the following:
  - 1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
  - 2. Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete in exterior walls.

## **2.3 Miscellaneous Lumber**

- A. General: Provide lumber for support or attachment of other construction, including the following:
  - 1. Rooftop equipment bases and support curbs.
  - 2. Blocking.
  - 3. Cants.
  - 4. Nailers.
  - 5. Furring.
  - 6. Grounds.
- B. For items of dimension lumber size, provide Construction, Stud, or No. 2 grade lumber with 15 percent moisture content.

## **2.4 Panel Products**

- A. Miscellaneous Concealed Plywood: Exposure 1 sheathing, span rating to suit framing in each location, and thickness as indicated but not less than 1/2 inch.

## **2.5 Fasteners**

In general, fasteners, straps and other hardware shall be copper, bronze, stainless steel or hot-dip galvanized. Galvanizing shall be done by the "hot dip" process in accordance with ASTM A153.

- A. Fasteners for wood to wood connections shall be galvanized, annular-threaded, ring-shank nails. Fasteners shall be of sufficient length to penetrate the receiving member a minimum of 1-1/2", except full depth into plywood.
- B. Fasteners for securing woodwork to concrete decking shall be Galvanized steel expansion anchor bolts of 3/8" diameter of length for the specific receiving material, stagger as far as practicable. Provide galvanized hex nuts and head washers of matching material.
- C. Fasteners for securing blocking and plywood sheathing to masonry and concrete surfaces shall be drive pins with zinc sheaths and steel pins as manufactured by Olympic, Rawl, ITW Buildex or approved equal. Fasteners shall be of sufficient length to penetrate the concrete or masonry substrate 1-1/2" minimum.
- D. Fasteners for resecuring existing mechanical equipment (such as fan hoods) to their curbs shall be self drilling, self tapping screws with hex heads and grommeted rubber washers, such as Twin-Fast by Rawl, Hextra by ITW Buildex or approved equal. Fasteners shall be of sufficient length to penetrate the curbs by 1-1/2" minimum.
- E. All fasteners which will be exposed in the finished work, such as at equipment curbs shall be secured through metal capped neoprene or nylon washers of the appropriate size.

## **2.6 Miscellaneous Materials**

Adhesive, Including Gluing Furring and Sleepers to Concrete or Masonry: Formulation complying with ASTM D 3498 that is approved for use indicated by adhesive manufacturer.

- 1. Use adhesives that have a VOC content of 70 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

## **PART 3 - Execution**

### **3.1 Installation, General**

- A. Discard units of material with defects that impair quality of carpentry and that are too small to use with minimum number of joints or optimum joint arrangement.
- B. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry to other construction; scribe and cope as needed for accurate fit. Locate furring, nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.
- C. Apply field treatment complying with AWPAC M4 to cut surfaces of preservative-treated lumber and plywood.
- D. Securely attach carpentry work as indicated and according to applicable codes and recognized standards.
- E. Use fasteners of appropriate type and length. Pre-drill members when necessary to avoid splitting wood.

### **3.2 Wood Blocking, and Nailer Installation**

- A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.
- B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces, unless otherwise indicated.

**End of Section 061000**

**SECTION 070800**

**COMMISSIONING OF THERMAL AND MOISTURE PROTECTION**

**Part 1 - General**

**1.01 Description**

A. Attachment A-2 - Standard Scope of commissioning Services for Green Repair Projects dated December 16, 2010

B. Document is bound as part of this Project Manual.

**End of Section**

**MASSACHUSETTS SCHOOL BUILDING AUTHORITY**

**40 BROAD STREET  
BOSTON, MASSACHUSETTS 02109**

**ATTACHMENT A-2**

**STANDARD SCOPE OF COMMISSIONING SERVICES FOR  
GREEN REPAIR PROJECTS**

**December 16, 2010**

**A. General**

The intent of this Standard Scope of Commissioning Services for Green Repair Projects document is to identify the services that generally will be required for each project. The MSBA will issue an individual Work Order for each project, and each Work Order will set forth the project-specific scope of commissioning services. A Work Order may not include some of the project phases and commissioning services described in this document, and/or it may include additional services that are not included as part of this document.

- 1) In performing the scope of work and work tasks required by a Work Order, Contractor shall consider the following:
  - a. Acceptable industry standards, including, but not limited to, those developed by the American Society of Testing and Materials (ASTM), Factory Mutual (FM), Underwriters Laboratories Inc. (UL), American National Standards Institute (ANSI), American Society of Heating, Air Conditioning and Refrigeration Engineers (ASHRAE), National Roofing Contractors Association (NRCA), Building Commissioning Association (BCA), The Green Building Council (LEED), and the Collaboration for High Performance Schools (CHPS).
  - b. Contractor's knowledge and expertise. Contractor may propose means and methods that are applied to commissioning and have been previously developed and successfully used by Contractor.
  - c. This Standard Scope of Commissioning Services for Green Repair Projects.
- 2) Contractor shall communicate and coordinate all activities with the Owner's Project Manager (OPM), Designer, and/or other authorized representative of the Owner for the Project.

**B. Commissioning Activities:** Commissioning activities for individual projects shall be as listed in the Work Order and may include one or more of the following integrated building systems:

- 1) Windows and doors and all materials and components forming a part of these systems including, but not limited to, windows, doors, louvers, vents, grilles and their connections to new or existing construction.
- 2) Roofing systems and all materials and components forming a part of these systems including parapets and roof openings (e.g., skylights, pipe chases, ducts, penetrations), and interfaces with accessory systems as may occur, including, but not limited to, drains, lightning protection, electrical equipment, signage, and antennas.
- 3) Boiler systems and all materials and components forming a part of these systems including, but not limited to, boilers burners, pumps, drives, fans, feed units, tanks, fuel storage and handling systems, piping, controls, and energy management systems.

**C. Project Phases:** Commissioning activities for individual projects are anticipated to be provided starting from the Construction Documents Phase and continue through bidding, construction, close-out and building occupancy or as otherwise indicated in the Work Order. The project phases described below are not intended to limit services but to allow the MSBA to develop scopes of work within Work Orders that meet the needs for commissioning services for each project.

## 1) Construction Documents Phase

- a. During the Construction Documents phase of the Project, commissioning services may include, but not be limited to those listed below and all other services required for projects of the type and scope of this project and customarily performed by commissioning consultants during design phases.
- b. Contractor shall participate in design review meetings on an as-needed basis, which meetings shall be coordinated by the OPM or Owner's Representative.
- c. Contractor shall review and provide input on the development of the design documentation including design intent and basis of design.
- d. Contractor shall perform a thorough review of all drawings and specifications at the 60% complete Construction Documents phase, and shall review and comment on their completeness, coordination among design disciplines, and adherence to the original design intent, performance standards and any applicable regulatory requirements. Such review shall include each of the following issues:
  - i. Assess the design intent and basis of design prepared by the Owner and the Design Team and comment on their clarity, completeness and whether the documents meet the design intent.
  - ii. Review and provide input as to how to facilitate effective commissioning.
  - iii. Review for adequacy of the energy efficiency of system types and components.
  - iv. Review envelope design and assemblies for thermal and water integrity, moisture vapor control and assembly life.
  - v. Review commissioned systems layout and their impact on other systems and the facility as a whole toward facilitating operations and maintenance.
  - vi. Review and report on building materials and waste management and their respective possible impact on the environment and their compliance with the design intent.
  - vii. Review the bid documents and comment on the adequacy of building commissioning specifications including testing requirements.
  - viii. Review the Construction Documents, including the drawings and specifications prepared for each subcontractor, to assess their completeness and coordination among the various disciplines, to assess provisions for construction sequencing, materials and equipment delivery and storage, site and building access.
  - ix. Contractor shall develop a record of issues and findings that require further attention (Issues Log). The Issues Log shall be updated regularly, including at the conclusion of each review, and regularly shared with the MSBA, OPM or Owner's Representative, Design Team and Construction Manager/General Contractor (CM/GC) for discussion and resolution.
- e. Contractor shall develop commissioning specifications (the "Cx Specifications") for inclusion in the Construction Documents. Schedule for completion of the Cx Specifications shall be commensurate with the overall Project schedule. The Cx Specifications shall, at a minimum, define the commissioning requirements for each specification section, for a special commissioning specification division, and for each of the systems and equipment to be commissioned as identified in the Work Order, and shall be coordinated for format and content with the project manual developed by the Design Team. The Cx Specifications shall include, but shall not be limited to, requirements for commissioning submittals, startup and checkout test plans, functional test development support, pre-functional checklists and functional test execution, as-built drawings and coordination among subtrades.
- f. Prior to the Project being put out to bid, Contractor shall develop the Commissioning Plan (the "Cx Plan"), including all documentation identifying and describing all required functional performance tests and defining clear procedures for the commissioning process. The Cx Plan shall be provided to the Design Team and the OPM or Owner's Representative for review, approval and incorporation into the Construction Documents. At a minimum, the Cx Plan shall include the following:
  - i. General Building Information. A brief description of the building's location, size and type

of use;

- ii. **Commissioning Team Information.** A list of the Contractor's commissioning team members, and their contact information along with contact information of those members of the commissioning team that represent the OPM, Design Team, CM/GC and the Owner;
- iii. **Commissioning Task Matrix.** A matrix or narrative describing major commissioning activities and the commissioning team member(s) designated to lead and assist with fulfilling those objectives;
- iv. **Commissioning Scope of Work.** Detailed description of all systems scheduled for commissioning, including the nature of the testing to be performed for each piece of equipment, for each sub-system and for each system.
- v. **Deliverables:** Clearly define the deliverables to be produced from the commissioning process and the deadlines for such deliverables, and identify parties responsible for producing them. Deliverables shall include, but not be limited to, schedules, test plans, test reports, training plans and final report. Identify required format for deliverables and include sample documents as appropriate.
- vi. **Schedule:** Prepare a schedule of commissioning activities. The commissioning schedule shall be coordinated with the overall Project schedule as established by the OPM or the Owner.
- vii. **Checkout, Startup & Pre-functional Testing:** Define the processes and procedures to be used for the installation review and prefunctional testing process and required integration between these activities for each piece of equipment, sub-system and system.
- viii. **Functional Performance Testing:** Describe the functional performance testing process, including prerequisites and any special equipment or instrumentation needed to obtain necessary measurements during performance testing. Include requirements for deferred seasonal functional performance testing as appropriate.
- ix. **Test Guidelines:** Include requirements for review, approval and documentation practices and test acceptance criteria.
- x. **Other commissioning-related correspondence, checklists, test forms, and documentation.**
- xi. **Prior to the Project being put out to bid, Contractor shall provide to the OPM or the owner's representative six (6) hard copies (at least one of which shall be reproducible) and one (1) electronic copy (DOC and PDF formats) on compact disk of the Commissioning Plan, specifications and graphic materials. Contractor shall provide one (1) hard copy and one (1) electronic copy of the above to the MSBA.**

## **2) Bidding Phase**

- a. During the Bidding Phase, Contractor shall provide the following services and all other services required for projects of the type and scope of this project and customarily performed by commissioning consultants during the bidding and negotiations phases.
- b. Contractor shall assist the Design Team and the OPM or Owner's representative in responding to requests from prospective bidders for information or clarification relating to commissioning.

### 3) Construction Phase

- a. During the Construction Phase, Contractor shall provide the following services and all other services required for projects of the type and scope of this project and customarily performed by commissioning consultants during the construction phase.
- b. Contractor shall coordinate the commissioning work with the CM/GC, OPM or Owner's Representative and the Design Team and assess whether the commissioning activities are properly accounted for in the master Project schedule.
- c. Contractor shall attend construction meetings at least once per month, or as frequently as necessary in the judgment of the OPM or Owner's Representative, to advise the project team on critical path milestone dates, including equipment delivery and installation, and other matters that impact commissioning and commissioning status.
- d. When systems to be commissioned are about to be installed and during the installation of such systems, Contractor shall track the progress and quality of the work being performed. To that end, Contractor shall visit the site at such intervals as are appropriate to the stage of construction; and whenever a significant amount of work in a specific trade discipline is being installed or constructed, Contractor shall bring to the site visits the specific members of Contractor's core team with expertise in such disciplines. Contractor shall advise the OPM or Owner's Representative on any issues related to these matters, and provide guidance to field representatives responsible for daily inspection of the Work. Contractor, however, shall not be required to make exhaustive or continuous on-site inspection to check the quality or quantity of the Work.
- e. Contractor shall prepare Pre-Functional Checklists and Functional Test Procedures for commissioned components and systems, and in the process shall:
  - i. Review CM/GC and subcontractor submittals applicable to systems being commissioned, concurrently with review by the Owner, OPM and Design Team to obtain component and system information and ensure compliance with commissioning needs and requirements; advise the OPM or Owner's Representative, CM/GC and Design Team of any deficiencies noted that may impact the commissioning execution or intended system performance; review the Design Team's submittal documentation and comments, and assist in resolving any discrepancies.
  - ii. Request and review additional manufacturers' or CM/GC's information as required to develop the test procedures, including operations and maintenance materials, contractor start-up plans and component test procedures. Contractor shall request and review all Requests for Information (RFI), change directives and construction contract Change Orders (CO) for any changes that would affect the systems to be commissioned.
  - iii. The functional performance test procedures shall be developed from shop drawings and submittals submitted by the construction contractor and approved by the designer.
  - iv. Submit completed pre-functional checklists and functional performance test procedures and distribute to the OPM or Owner's Representative, CM/GC, Design Team, and equipment vendors for review as required and to assure understanding prior to execution.
- f. Contractor shall review and comment on the CM/GC's systems equipment and component test procedures and shall coordinate these plans and procedures with the OPM or Owner's Representative and Design Team and through the OPM or Owner's Representative, shall facilitate CM/GC compliance with the requirements of the Cx Plan and Construction Documents.
- g. Through review of startup reports and selected site observations, the Contractor shall report on each commissioned system's readiness for testing.



#### **4) Acceptance Phase**

- a. During the Acceptance Phase, Contractor shall provide those services listed below and all other services required for projects of the type and scope of this project and customarily performed by commissioning consultants during the Acceptance Phase.
- b. Contractor shall plan, organize, schedule and coordinate all commissioning and other work activities including pre-functional testing and functional performance testing during this phase of the Project, shall coordinate such activities with the OPM or Owner's Representative and the CM/GC, and shall lead all commissioning team meetings.
- c. Contractor shall update and revise the Cx Plan and related documentation as necessary during the commissioning process.
- d. Contractor shall review pre-functional checklist execution by site observation and spot checks, shall review all completed pre-functional checklists, shall review the deficiency and resolution log, approved shop drawings, open RFI's and manufacturers' start-up sheets and comment on the readiness for functional performance testing.
- e. Contractor shall review the calibration status of sensors and actuators reported during pre-functional check by the installing contractors and shall spot check the same during functional testing.
- f. Working with the CM/GC, equipment vendors and appropriate subcontractors, Contractor shall execute, coordinate, witness and assess the functional performance tests for each sub-system and system as established by the Cx Plan, and shall coordinate retesting as necessary until satisfactory performance is achieved. Services shall include:
  - i. Coordination, witnessing and assessing performance tests of building envelope components.
  - ii. Monitor the performance of functional performance tests.
  - iii. Maintain a master deficiency and resolution log, which shall become part of the Issues Log, and a separate testing record, provide periodic, written progress reports to the MSBA, Owner, OPM, and the Design Team which include test results with recommended actions, coordinate resolution of any deficiencies with the CM/GC and appropriate subcontractors, and witness and document repeat testing, as necessary to indicate whether all deficiencies are corrected.
  - iv. Witness all tests of commissioned equipment and systems which the Owner may contract for or which may be performed by manufacturer's personnel over whom the Contractor may not have direct control, and document and include the test data and reports of such tests in the commissioning record and in the operations and maintenance manuals.
- g. Contractor shall review completed as-built drawings and records, including operation and maintenance manuals prepared by equipment manufacturers, fabricators or installers.
- h. Contractor shall participate in meetings and other Project activities relating to system start-up and after substantial completion shall participate in the review of the building operations.
- i. Contractor shall assess and report to the OPM or Owner's Representative and the MSBA whether all equipment and systems are working in conformance with the requirements of the Construction Documents, and shall make recommendations for modification or adjustment as necessary.

- j. Contractor shall review all warranties and provide a written report to the OPM or Owner's Representative Design Team, and MSBA upon the extent of compliance with the Construction Documents, and any recommended action in response to discrepancies observed.
- k. Contractor may be requested by the MSBA to provide on-going support to the OPM, the MSBA and the Owner during the first full year of operation on an as-needed basis as a reimbursable service.
- l. Contractor shall accompany the Owner, OPM and Design Team on a walk-through site visit upon completion of punch list by the CM/GC, review the deficiency and resolution log and report to the OPM or Owner's Representative on the installation completeness and functionality of all commissioned systems; and shall advise the OPM or Owner's Representative of any necessary corrections.
- m. Contractor shall provide the Owner, OPM and Design Team with prompt written notice if Contractor becomes aware of any fault or defect or noncompliance with the Construction Documents as they may affect the systems to be commissioned.

#### **5) Project Closeout**

- a. Contractor shall provide a Final Commissioning Report. The report shall include an executive summary, list of participants and the role of each participant, brief building and systems descriptions, an overview of the scope of commissioning and testing, and a general description of testing and verification methods.
  - i. The report shall address the adequacy of the equipment, documentation and training, in satisfying the requirements of the Contract Documents in each of the following areas:
    - Material/system specifications and design intent
    - Material /system installation
    - System functional performance and efficiency
    - Description of the verification method used and observations and conclusions from the testing
    - Non-compliance issues referenced to the specific functional test, inspection, and other records where the deficiency is documented
    - Material /system operations and maintenance
    - Record documentation
  - ii. All outstanding non-compliance items shall be specifically listed in the report, and recommendations for improvement to equipment or operations, future actions, commissioning process changes, and other appropriate matters shall also be listed.
  - iii. Appendices shall contain Issues Log, meeting minutes, progress reports, deficiency lists, site visit reports, findings, unresolved issues, communications, and all other relevant information.
  - iv. Pre-functional checklists and functional performance tests and monitoring data and analyses shall be provided in a separate labeled binder.

#### **6) Post Commissioning**

- a. Contractor shall, through the OPM or Owner's Representative, plan, organize, schedule and coordinate required seasonal or deferred testing and deficiency corrections.
- b. Contractor shall provide the final testing documentation for the commissioning record and operations and maintenance manuals.

**END OF ATTACHMENT A-2**

## **SECTION 072200**

### **ROOF INSULATION**

#### **PART 1 - GENERAL**

##### **1.01 GENERAL REQUIREMENTS**

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS, which are hereby made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that the equipment to be furnished complete in every respect, and that this Contractor shall provide all equipment needed and usually furnished in connection with such systems to provide a complete installation. Equipment, materials, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

##### **1.02 WORK TO BE PERFORMED**

- A. The work under this Section consists of furnishing and installing all roof insulation and related items as indicated on the drawings and specified herein.
- B. New polyisocyanurate insulation set in cold process adhesive.
- C. Extruded polystyrene insulation for cavity walls match existing thickness.
- D. The drawings indicate and show limits of construction for this project. The specifications specify material and work requirements for this project. Both are complementary to each other and both shall be followed to complete the work.
- E. Provide spray foam insulation – see details for locations.
- F. Alternates: Alternates are identified in Detail A2 on Drawing Sheet A-502 Roof Details. See Section 010300 - Alternates

##### **1.03 RELATED WORK UNDER OTHER SECTIONS**

- A. The following items of related work are specified and included in other Sections of the Specifications:
  - 1. Section 024100 – Demolition

2. Section 042100 – Masonry Removal and Replacement
3. Section 061000 – Rough Carpentry
4. Section 075100 – Cold Process Built-Up Roofing
5. Section 076000 – Flashings and Sheet Metal

#### 1.04 SUBMITTALS

- A. Submit in accordance with Section 013000 - Administrative Requirements.
1. A letter from the roof system manufacturer and insulation manufacturer stating that the insulation to be used on the project is acceptable for use with the system to be used.
  2. Manufacturer's data sheet on each type of insulation.
  3. Manufacturer's data sheet on each type of adhesive for insulation.
  4. Manufacturer's Material Safety Data Sheets for all products specified in this Section.
  5. Complete tapered-insulation shop-drawings, showing slopes, section thicknesses and layouts for all roof areas on each building.

#### 1.05 GUARANTEE

- A. The Contractor shall furnish to the Owner a written guarantee covering all defects of materials and workmanship of this Section that occur within a period of two years from the date of final completion of the project. Should any defects in materials or workmanship develop within this time, all repairs and replacements shall be made at no additional cost to the Owner.

#### 1.07 CODES

- A. Except as modified by the requirements of other governing codes and by this specification, insulation and its installation shall conform to the provisions and recommendations of the following codes and standards:
1. Insulation shall have Factory Mutual Class I approval.
  2. Cold-process adhesion of thermal insulation shall meet Factory Mutual's Class 1A-90 wind uplift rating for the specified cold-process, multiple-ply roof system

3. Insulation assembly shall carry Underwriters Laboratory's Class A approval for fire resistance.
4. Massachusetts State Building Code (8th Edition).
5. Stretch Energy Code.

## 1.08 ENVIRONMENTAL REQUIREMENTS

- A. Roof removal and roofing system installation shall not take place during inclement weather or when the air temperature or wind chill temperature is below 40° F.
- B. Material safety data sheets of all specified products of this section shall be kept on site daily for project duration.

## PART 2 - PRODUCTS

### 2.01 INSULATION

- A. Polyisocyanurate tapered and flat insulation shall be rigid closed-cell polyisocyanurate core integrally bonded to non-asphaltic fiberglass facing in the foaming process. **It appears that the existing roof deck is sloped to some degree and to provide tapered of flat insulation in these areas as required to achieve a minimum of R-25 and ¼" per foot slope and review of existing conditions with the architect and manufacturer's representative prior to ordering of material to ensure proper warrantee can be achieved and provided.** Insulation shall be required by the roof system manufacturer to obtain the roof system manufacturer's full-system warranty and shall adhere to the following listed properties:

<u>PROPERTY</u>	<u>TEST METHOD</u>	<u>VALUE</u>
Slope/Taper: <u>(see roof plan drawing for slope requirements, per roof area ¼" per foot)</u>		
Thermal Performance	ASTM C-518	R=25 Min.
Water Absorption % Volume	ASTM C-209	<1% volume
Dimensional Stability	ASTM D-2126	1.0% max 7 days
Compressive Strength	ASTM D-1621	20 psi min.
Foam Core Density	ASTM D-1622	2.1 lbs/cu. ft. nominal

Moisture Vapor Transmission	ASTM E 96	<1.0 perm
Flame Spread	ASTM E-84	25 max

- B. All polyisocyanurate insulation panels shall be obtained from a single source and shall have the same facing materials and be manufactured by the same insulation manufacturer.
- C. Tapered edge strips where specified shall be 18 inch wide insulation and shall be fiberboard.
- D. Four (4) foot wide tapered insulation shall have a minimum thickness of one (1) inch.
- E. Wood fiberboard insulation shall be ½ inch thick high density wood fiber "cellulosic" insulation that meets federal specifications LLL-1-535B for Class E, 1977 and conforms to the following properties:

<u>PROPERTY</u>	<u>VALUE</u>
Thermal Conductivity Max. (k) at 75° F	.40
Transverse Load avg. min. lbs.	14
Tensile Strength Parallel to surface avg. min. psi	150
Tensile Strength Perpendicular to surface Avg. min. lbs/ft <sup>2</sup>	600
Water absorption by volume, max. %	7
Linear expansion 50-90% R.H. avg. max. %	.5
Vapor Permeance grains/hr/sq. ft./in. Hg., min.	5
Flame Spread (max.) ASTM E84	275
Modulus of rupture avg. min. psi	275
Deflection at specified Min. load avg. max. in.	.75
Thermal Resistance (R-Value) per ½" of material	1.38
Thermal Conductance (C-Value)	.72

## 2.02 ROOF DECK PREPARATION - WATER-BASED ASPHALT PRIMER

- A. Water-based, quick-drying, asphalt primer applied to the concrete roof decking prior to the installation of adhered thermal insulation. Provide water-based primer meeting or exceeding the performance characteristics provided below:

<u>PROPERTY</u>	<u>TYPICAL VALUE</u>	<u>TEST METHOD</u>
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Asbestos content	None	ASTM D 276-87
Viscosity @ 77 F	65 KU	ASTM D 562-81
(Stormer Kneb)		
Density @ 77 F	8.8 lb/gal	ASTM D 1475-85
Nonvolatile content	32%	ASTM D 1644-88
Flash point	Not Applicable	ASTM D 3278-82

## 2.03 INSULATION ATTACHMENT

### A. Insulation Adhesive:

1. Solvent-free, cold-process insulation adhesive for the securement of insulation components shall meet-or-exceed the following performance characteristics listed below:

<u>PROPERTY</u>	<u>TYPICAL VALUE</u>	<u>TEST METHOD</u>
V.O.C. Content	20 g/L	ASTM D 3960-89
Viscosity @ 77°C	70 Pa s (70,000 cP)	ASTM D 2556-69
Non-Volatile Content	99%	ASTM D 1644-88
Density @ 77°F	1.0 kg/L (8.5 lb/gal)	ASTM D 1875-69
Tensile Strength	1379 kPa (200psi)	ASTM D 412-87
@ 77°F		
Elongation @ 77°F	1200%	ASTM D 412-87
Adhesion Strength	552 (80 psi)	ASTM D 816-82
in shear @ 77°F		
T-Peel Adhesion	2.6 N/mm (15 lbf/in.)	ASTM D 1876-72
@ 77°F		

## PART 3 - EXECUTION

### 3.01 EXAMINATION

- A. Insulation shall be installed over a clean, dry and properly prepared roof surface acceptable to the membrane manufacturer and the Owner. The Contractor shall inspect the surface to determine that it is smooth and uniform to receive the new insulation. Prior to starting the work, the Contractor shall notify the Full-Time Inspector and Owner that the deck is ready for new work to begin.
- B. No more insulation shall be installed than can be completely covered with the finished roofing system on the same working day.

### 3.02 PREPARATION AND PROTECTION

- A. All installed insulation must be fully protected from precipitation and condensation damage at all times. Any wet insulation shall be marked, removed from the site and replaced prior to installation of new membrane.
- B. Layout tapered insulation materials to provide full and complete drainage throughout all portions of the particular roof system. Modify tapered layouts to accommodate curbs and other penetrations.
- C. Contractor shall stockpile insulation so as not to overload the structure.
- D. Contractor should note that polyisocyanurate insulation is flammable when exposed to direct flame.

### 3.03 INSTALLATION - GENERAL

- A. The insulation shall be neatly cut to fit around roof penetrations and projections. Insulation for all roofs is to be laid in parallel courses with transverse joints staggered with joints in adjoining courses.
- B. Insulation shall be installed without gaps or voids and with smooth transitions and tightly fitting joints. Layout tapered insulation profiles to provide full and complete drainage
- C. No piece of insulation shall be cut to fit less than two (2) square feet unless size of opening dictates.
- D. Provide tapered edge strips to provide a smooth-transition at perimeters, where tapered insulation varies from the height of the perimeter blocking. The top surface of the insulation shall be flush with the top surface of the wood blocking within a tolerance of 1/16" with respect to the blocking.
- E. Where more than one (1) layer of insulation is installed, stagger joints of succeeding layers from first layer, a minimum of 12 in. in each direction.



### 3.04 INSTALLATION

#### A. ASPHALT PRIMER

1. After the existing roof system is removed, coat all substrates that are to receive adhered insulation with water-based, asphaltic primer. Install primer at the approximate rate of 200 sq/ft per gallon. Apply by using either a brush or medium nap roller. Liberally coat as required to obtain the most penetration as required to achieve an effective bond.

#### B. COLD PROCESS INSULATION ADHESIVE

1. The recommended adhesive applicator, adhere all layers of tapered, polyisocyanurate insulation to the roof deck using the specified cold process insulation adhesive at a rate of 1.5 gallons per 100 sq/ft, per layer.
2. Immediately after placement, walk insulation boards into adhesive to achieve a solid bond.
3. After the various layers of tapered insulation are adhered in place, adhere a final, top-layer of high-density, asphalt-coated wood fiber protection board, staggering the joints of the underlying layers. Adhere the wood fiber protection board using the specified cold process insulation adhesive at a rate of 1.5 gallons per 100 sq/ft.
4. Immediately after placement, walk insulation boards into adhesive to achieve solid bond.
5. Promptly spread any adhesive pools that may accumulate on insulation surface to achieve smooth surface for roofing installation.
6. Adhesive application rate shall be as defined by Factory Mutual for a Class 1A-90 rating. Insulation adhesive shall be increased by 50% within eight (8) feet of the exterior roof perimeter and 75% within eight (8) feet of exterior roof corners.

END OF SECTION

## SECTION 075100

### COLD-PROCESS BUILT-UP ROOFING

#### PART 1 - GENERAL

##### 1.01 GENERAL REQUIREMENTS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS, which are hereby made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that the equipment to be furnished complete in every respect, and that this Contractor shall provide all equipment needed and usually furnished in connection with such systems to provide a complete installation. Equipment, materials, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

##### 1.02 WORK TO BE PERFORMED

- A. The work under this Section consists of Removing Existing Roofing System including Insulation, Sheet Metal and Flashing, and installing all cold-process, built-up roofing and flashing as indicated on the Drawings and specified herein.
  - 1. Four (4) ply cold-process, reinforced, built-up roofing system and related flashing as specified herein and as shown on the Drawings.
  - 2. Installation of protective cold process flood coat and aggregate surfacing.
    - A. Color shall be selected by the Owner.
  - 3. Installation of miscellaneous, related items and accessories.
  - 4. Installation of (1) one OSHA compliant Roof Ladder.
  - 5. Supply all shoring and protection necessary to protect the building interiors, building systems, existing roofing to remain, and landscape areas.
  - 6. Provide 1/2" protection board.
  - 7. Remove and replace cast-iron roof drain assemblies and removal and disposal of existing roof drains. Provide drain bowl insulation. Replace ceiling tiles damaged from drain bowl installation. Roof drain bowl replacement work to be performed by licensed plumbers.

8. Clear roof drain lines to point of exit from building.
  9. Clean and restore all areas affected by the work.
  10. Disconnection, extension, and reconnection of electric, energy management systems, and removal, disposal, and replacement of condenser refrigerant necessary for the roofing contractor to raise and reinstall equipment and utilities to perform the work of the roof replacement system. The disconnection, extension, and reconnection of equipment shall be performed in accordance with the Commonwealth of Massachusetts State Building Code and by licensed HVAC, Plumbing, and Electrical contractors.
- B. The drawings indicate and show limits of construction for this project. The specifications specify material and work requirements for this project. Both are complementary to each other and both shall be followed to complete the work.
- C. Alternates: Alternates are identified in Detail A2 on Drawing Sheet A-502 Roof Details. See Section 010300 - Alternates

#### 1.04 RELATED WORK UNDER OTHER SECTIONS

- A. The following items of related work are specified and included in other Sections of the Specifications:
1. Section 020700 – Demolition
  2. Section 042100 – Masonry Removal and Replacing
  3. Section 061000 – Rough Carpentry
  4. Section 072200 – Roof Insulation
  5. Section 076000 – Flashings and Sheet Metal

#### 1.05 ASBESTOS

- A. If asbestos materials, or materials suspected to contain asbestos, are encountered during construction, demolition, or cutting and patching, the Contractor shall immediately cease work in the area of the suspect material and shall immediately notify both the Owner. The Owner, or their designated representative, will investigate these materials and determine the method for removal, disposal, or encapsulation of these materials.
- B. If the Contractor or Subcontractor disturbs, removes, disposes of, or encapsulates these materials without written authorization and instructions from the Owner or Owner; or disturbs, removes, disposes of, or encapsulates these materials in a manner not in accordance with the written authorizations and instructions, the Contractor and Subcontractor shall indemnify, defend, and hold harmless the Owner and the Owner against any loss, damage, or liability arising or resulting from such unauthorized improper acts of the Contractor and Subcontractor; and further, the Owner and Owner shall not be responsible for any such loss, damage, or liability arising or resulting from the Contractor's or Subcontractor's acts.

## 1.06 SUBMITTALS

### A. Submit in accordance with Section 01300, SUBMITTALS.

1. Submit evidence of required experience with cold-process, built-up, multiple-ply roofing systems, as outlined in Section 1.06 – Quality Assurance.
2. Submit written verification of certification and/or approval from the roofing material manufacturer, as outlined in Section 1.06 – Quality Assurance.
3. Submit shop drawings detailing all specified details and layout to achieve FM Class 1A-90 rating.
4. Submit roofing system manufacturer's installation instructions to the Owner.
5. Submit product literature data of all specified roofing products.
6. Submit material safety data sheets (MSDS) of all specified products.
7. Submit written copies of testing laboratory listings certifying that the specified four (4) ply, cold-process roofing system meets the following standards for wind-uplift and fire-resistance:
  - a. Factory Mutual Class 1A-90 (FM 4470 Testing Regimen).
  - b. United Laboratories Class A (UL 790 Testing Regimen).

## 1.07 QUALITY ASSURANCE

### A. Random Testing Procedures:

1. During the course of the work, the Owner (or their designated representative) may secure samples, in accordance with testing guidelines defined within ASTM D140-70 (1981), of materials and/or completed roofing being installed at the job site and submit them to an independent laboratory for comparison with the material performance requirements listed in these specifications. Should test results prove that materials and/or completed roofing do not meet the performance requirements listed within these specs, the Contractor shall bear the cost for all testing. Construction installed and found not to comply with the specs shall be removed and replaced at no change in the contract price.

### B. Contractor Experience Requirements:

1. The Contractor shall be experienced to the satisfaction of the Owner in the installation of aggregate-surfaced, reinforced, cold-process, four (4) ply, built-up roofing systems. Required experience involves the successful installation of at least five (5) warranted projects of similar size (10,000 square feet minimum), scope and complexity utilizing the specified, four (4) ply, cold-process roofing assembly within the past five (5) years.

**C. Roof System Manufacturer's Capabilities and Experience:**

1. The Owner is concerned about quality performance in all areas of roofing construction and, as a result, is requiring the sourcing of all cold-process adhesives, ply sheets, mastics, flashing materials, and related items to be manufactured by a single Roofing Material Manufacturer in order to ensure consistent quality. The Roofing Material Manufacturer shall submit verification of the foregoing by the affidavit of a corporate officer.
2. The Contractor shall select a Roofing Materials Manufacturer which is experienced, to the satisfaction of the Owner, in the manufacture and supply of cold-process, multiple-ply roofing systems. Minimum required experience involves the successful installation of at least five (5) projects of similar scope and complexity (10,000 square feet minimum), where the Roofing Materials Manufacturer has provided/supplied the specified, four (4) ply cold-process roofing assembly. All such references must be available for inspection by the Owner, Owner, or their designated representative, as may be requested. Provide the following submittal information:
  - a. Name, address, and site contact person of each of the five (5) cold-process, multiple-ply roofing projects being used as a reference.
  - b. Copies of the Roofing Material Manufacturer's published warranties, showing dates and square footage for each of the five (5) cold-process, multiple-ply roofing projects being used as a reference.

**D. Roofing Manufacturer's Full-Time Job Site Inspection:**

1. The Owner is concerned about the quality performance in all aspects of roofing construction and is requiring the Contractor to select a Roofing Materials Manufacturer that has an established program for providing full-time inspection on warranted projects. The Manufacturer's full-time inspector (Paid for by Contractor) shall remain onsite all day, every day work is in progress. The inspector shall be a full-time employee of the Manufacturer and shall not be removed from the project without the Owner's approval as long as he is employed by the Roofing Material Manufacturer. The Owner has a particular interest in the competence and experience of the inspector and, accordingly, the Roofing Material Manufacturer shall supply the Owner with a listing of the proposed inspectors and their experience, and the Owner shall have the right, by written notice send to the Roofing Material Manufacturer at any time, to disapprove such inspector. The Roofing Material Manufacturer shall then appoint a new and approved inspector immediately upon receipt of notice.
2. Provide the following information for the full-time job site inspector proposed for use on this project:
  - a. Names, addresses, and site contact persons as references for a minimum of five (5) projects where the proposed full-time job site inspector has provided full-time inspection on jobs of similar scope and complexity for the Roofing Material Manufacturer within the past two (2) years.

- E. The Contractor and their job foreman, Roofing Material Manufacturer's Representative, the Owner, and any designated representatives of the Owner shall attend all project meetings, along with any other parties directly affecting the work.
- F. Conditions of installation, installation procedures and schedules, and coordination required shall be reviewed by the full-time job site inspector.

#### 1.08 PRECONSTRUCTION CONFERENCE

- A. Pre-installation conference shall be held one week prior to the commencement of work.
- B. Contractor and his job foreman, Roofing System Manufacturer's Representative, the Owner, and representatives of the Owner shall attend all project meetings, along with any other parties directly affecting the work.
- C. Conditions of installation, installation procedures and schedules, and coordination required shall be reviewed.

#### 1.09 DELIVERY, STORAGE, AND HANDLING

- A. Materials shall be delivered to the site in original, unopened containers bearing appropriate warnings, labels and other identification.
- B. Materials shall be stored and handled on site in original containers in compliance with storage and handling conditions marked on the container or required by the roofing system manufacturer.
- C. Materials shall be kept dry prior to and during installation.
- D. Any materials damaged during handling or storage shall be removed from the site and shall not be used in any part of the roofing system.
- E. Store roll goods on ends only. Discard rolls that have been flattened, creased, or otherwise damaged.

#### 1.10 ENVIRONMENTAL REQUIREMENTS

- A. Roof removal and roofing system installation shall not take place during inclement weather or when the air temperature or wind chill temperature is below 40° F.
- B. Material safety data sheets of all specified products of this section shall be kept on site daily for project duration.

#### 1.11 ROOFING WARRANTY AND INSPECTION/MAINTENANCE PROGRAM

- A. Provide Contractor's warranty to cover all defects in workmanship and materials for a period of two (2) years from date of acceptance.
- B. Roofing System Warranty & Companion Inspection/Maintenance Program:

All components of the roofing system, including, but not limited to, insulation components, base/metal flashings, and related detailing, are to be included as components of the Roofing Materials Manufacturer's warranty program. This applies to materials supplied-by and not supplied-by, the Roofing Materials Manufacturer.

The Owner is requiring that the Roofing Materials Manufacturer provide a long-term warranty, as well as, yearly inspections and preventive maintenance to the roof system throughout the entire warranty-term. It is the intent of the Owner to require that the Roofing Materials Manufacturer have an established program for providing sole-source responsibility for the warranty, yearly inspections and preventive maintenance requirements of the installed roofing assembly, as stipulated.

All workmanship and materials related to the newly-installed roofing system shall be warranted and serviced by the Roofing Materials Manufacturer for a period of Twenty (20) years from the date of final acceptance by the Owner.

Upon project completion and final acceptance by the Owner, the Roofing Contractor shall procure and deliver the Roofing Material Manufacturer's Twenty (20) year complete roofing system Warranty & Inspection/Maintenance program. The Warranty shall obligate the Roofing Material Manufacturer to provide follow-up inspections on a yearly-basis, throughout the Twenty (20) year term of the Warranty.

At each inspection, the Roofing Material Manufacturer will be required to perform, at their sole expense, all required preventive maintenance to the installed roof system and flashings. At each inspection, the warranty program is required to cover all preventive maintenance requirements of the installed roofing assembly including, but not limited to:

- General housekeeping and removal/disposal of all rooftop debris from roof surfaces, drains and other similar areas.
- General preventive maintenance and reinforcement to roof drain flashings, base flashings, metal flashings, penetration flashings and related detailing.
- General preventive maintenance to wind-scoured surfacings.
- Miscellaneous maintenance to sealant/caulking components within the roof system.

Each inspection will involve a written summary, with photographs, to be delivered directly to the Owner, via e-mail, describing field-conditions and cataloging all maintenance items which were performed during each inspection. Any/all evidence of physical abuse or vandalism, which shall be excluded from the Roofing Material Manufacturer's obligations, shall be immediately reported to the Owner for corrective action.

To ensure continuity-of-service and to limit responsibility to a single entity, the Roofing Material Manufacturer shall utilize only full-time personnel who are directly-employed (in a full-time capacity) by the Roofing Material Manufacturer to execute all aspects of the Service Agreement. This work shall not be sub-contracted to outside Contractors or other entities.

## PART 2 - PRODUCTS

### 2.01 ROOFING MATERIALS

#### A. Adhesives

1. Inter-ply/Surfacing Adhesive: Cold process inter-ply/surfacing adhesive.
2. Flashing Sheet Adhesive: Solvent-free, elastomeric mastic/adhesive.
3. Ply Sheet Adhesive: Cold process inter-ply/surfacing adhesive.

#### B. Reinforced Roofing Ply Sheet: Trilaminate reinforced ply sheet.

#### C. Related Materials:

1. Asphalt Mastic: ASTM D 4586-86 fibrated asphalt mastic.
2. Water-based, concrete deck primer.
3. Asphalt Primer: ASTM D 41-85.
4. Flashing Sheet:
  - a. Reinforced SBR/EPDM, 0.045 inch thick, fire retardant.
  - b. Color: Black.
5. Roofing Aggregate:
  - a. Hard, durable, opaque; washed free of clay, loam or other debris.
  - b. Do not use: Crushed gravel, white dolomite (marble chips), Joplin chats, scoria, limestone, volcanic rock and/or cinders.
  - c. ASTM D 1863-86, size six (6), 5/8"-3/4", washed aggregate.
  - d. Color shall be chosen by the Owner.
6. Multiple-Purpose Sealant: FS TT-S-00230C (2), single component, polyurethane sealant.
7. Stripping Adhesive for Metal Flanges: ASTM D 4586-86, asphalt mastic.
8. Stripping Ply for Metal Flanges: Trilaminate reinforced roofing ply sheet.
9. Non-Shrinking, Non-Rotting Woven Glass Mesh: Woven, fiberglass meshing.
10. Pitch-Pocket Sealant: Two (2) part, pourable sealant.

#### D. OSHA Compliant Roof Ladder.



- E. Protection Board shall be ½" Tremco/GP gypsum Dens-Deck, fiberglass mat faced, moisture resistant gypsum roof board.

## 2.02 SYSTEM/MATERIAL PERFORMANCE REQUIREMENTS

- A. Single-component, cold-process, solvent-free, insulation adhesive meeting or Cold-process interply and surfacing adhesive meeting or exceeding the performance characteristics provided below:

<u>PROPERTY</u>	<u>TYPICAL VALUE</u>	<u>TEST METHOD</u>
Asbestos Content	None	ASTM D 276-87
Viscosity @ 77 F	80,000-200,000 cP	ASTM D 2196-86
Density @ 77 F	8.1 lb/gal	ASTM D 1475-85
Nonvolatile Matter	67%	ASTM D 4479-85
Asphalt content, min	42%	ASTM D 4479-85
Flash point	> 100 F	ASTM D 93-85
Uniformity & Consistency	Pass	ASTM D 4479-85

- C. Single-component, solvent-free, elastomeric flashing-sheet adhesive meeting or exceeding the performance characteristics provided below:

<u>PROPERTY</u>	<u>TYPICAL VALUE</u>	<u>TEST METHOD</u>
Asbestos content	None	ASTM D 276-87
Viscosity @ 25°C	60,000-2,000,000 cP	ASTM D 2196-86
Density @ 25°C (77°F)	970 kg/m <sup>3</sup> (8.1 lb/gal)	ASTM D 1475-85
Tensile Strength		
@ 25°C (77°F)	30 - 50 psi	ASTM D 412-87
@ 100% elongation	(275 - 690 kPa)	
Elongation		
@ - 25°C (77°F)	1,000%	ASTM D 412-87
@ - 34°C (-30°F)	100%	ASTM D 412-87
Recovery from 500% elongation	90% min.	ASTM D 412-87

Moisture vapor transmission rate in <sup>2</sup> /24 hrs	0.50 - 1.10 g/100	ASTM E 398-83 (1988)
Behavior at 60°C (140°F) [Sag Resistance]	6 mm (max) (1/4 in. max)	ASTM D 4586-86

- D. Asphalt-coated, trilaminate (polyester/fiberglass/polyester) reinforced roofing ply sheet meeting or exceeding the performance characteristics provided below:

<u>PROPERTY</u>	<u>TYPICAL VALUE</u>	<u>TEST METHOD</u>
Weight	31 lb/100SF	ASTM D 228-90a
Breaking strength @ 77F	220 lbf/in MD 235 lbf/XMD	ASTM D 146-97
Pliability, ½ in. radius bend	No failures	ASTM D 146-78a
Mass of desaturated polyester/glass mat, min.	3.5 lb/100SF	ASTM D 228-90a
Tear strength	345 lbf/MD 330 lbf/XMD	ASTM D 4073-94
Elongation @ 77F	6.5% MD 6.5% XMD	ASTM D 146-97
Asphalt	10.0 lb/100SF	ASTM D 228-90a

- E. Asphalt mastic shall meet or exceed the performance characteristics provided below:

<u>PROPERTY</u>	<u>TYPICAL VALUE</u>	<u>TEST METHOD</u>
Asbestos content	None	ASTM D 276-87
Viscosity @ 25°C (77°F)	480 - 1000 Pa s (480000-1000000 cP)	ASTM D 2196-86
Density @ 25°C	1.11 kg/L	ASTM D 1475-85

(77°F)	(9.3 lb/gal)	
Nonvolatile Matter	80%	ASTM D 4586-86
Behavior at 140°F		
(Sag Resistance)	3.18 mm (1/8 in.)	ASTM D 4586-86
Moisture vapor	2 - 6 g/m <sup>2</sup> /24 hrs.	ASTM E 398-83
transmission rate	@ 0.51 mm (0.10 - 0.40 g/100 in. <sup>2</sup> /24 hrs. @ 0.020 in.) thickness	

- F. Water-based, quick-drying, asphalt primer for concrete roof deck surfaces meeting or exceeding the performance characteristics provided below:

<u>PROPERTY</u>	<u>TYPICAL VALUE</u>	<u>TEST METHOD</u>
Asbestos content	None	ASTM D 276-87
Viscosity @ 77 F	65 KU	ASTM D 562-81
(Stormer Kneb)		
Density @ 77 F	8.8 lb/gal	ASTM D 1475-85
Nonvolatile Content	32%	ASTM D 1644-88
Flash point	Not Applicable	ASTM D 3278-82
VOC*	60 g/l	ASTM D 3960-89

(\* Volatile Organic Compound)

- G. Elastomeric, polyester-reinforced flashing sheet consisting of a blend of EPDM and SBR elastomers meeting or exceeding the performance characteristics provided below:

<u>PROPERTY</u>	<u>REQUIRED VALUE</u>	<u>TEST METHOD</u>
Breaking strength	325 lbf (MD) 290 lbf (XMD)	ASTM D 751-89
Tear strength	70 lbf (MD) 78 lbf (XMD)	ASTM D 751-89
Low Temp. Flex.	-60 F	ASTM D 2136-84
Thickness	0.045"	ASTM D 751-89

Weight	41.6 oz/sq. yd.	ASTM D 751-89
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- H. Non-shrinking, non-rotting woven glass meeting or exceeding the performance characteristics provided below:

<u>PROPERTY</u>	<u>TYPICAL VALUE</u>	<u>TEST METHOD</u>
Weight	0.065 kg/m <sup>2</sup> (1.32 lb/100 ft <sup>2</sup> )	ASTM D 146-78a
Moisture based on net weight	None	ASTM D 146-78a
Average tensile strength @ 25°C (77°F)		
Wrap threads	334 N (75 lbf)	ASTM D 146-78a
Filling threads	334 N (75 lbf)	ASTM D 146-78a
Organic content		
Weight	18.7%	ASTM D 579-83
Type	PVC/acrylic water-based	

## 2.03 ROOF DRAINS

A. Roof drains shall be Zurn Z121 as manufactured by Zurn Industries Inc or approved equal. Roof drains shall be 12-inch in diameter, top set with a roof deck plate, dura-coated cast iron body with a combination membrane flashing clamp/gravel guard and low silhouette cast iron dome, and underdeck clamps.

B. Piping, fittings, and outlet type shall be provided and installed by a licensed plumber under this section for connection of new roof drain to existing roof drain system.

## PART 3 - EXECUTION

### 3.01 EXAMINATION

- A. Verify conditions as satisfactory to receive work.
- B. Do not begin roofing until all unsatisfactory conditions are corrected. Beginning work constitutes acceptance of conditions.

- C. Verify that work of other trades penetrating roof deck or requiring men and equipment to traverse roof deck has been approved by the Owner, Roofing Material Manufacturer, and Contractor.
- D. Coordinate installation of all new construction with installation of new four (4) ply cold-process built-up roofing system.
- E. Check projections, curbs, and deck for inadequate anchorage, foreign material, moisture, or unevenness that would prevent quality and execution of new roofing system.

### 3.02 GENERAL WORKMANSHIP

- A. Substrate: Shall be free of foreign particles prior to laying roof membrane.
- B. Phased application is not permitted. All plies shall be completed each day.
- C. Traffic and equipment shall be kept off completed plies until cold-process adhesives have set.
- D. Wrapper and packaging materials are not to be included in roofing system.
- E. Entrapped aggregate is not permitted within new membrane. Its discovery is sufficient cause for rejection.
- F. Ply shall never touch ply, even at roof edges, laps, tapered edge strips, and cants.
- G. Fit plies into roof drain rims; install lead flashing and finishing plies; secure clamping collars; install domes.
- H. Extend roofing membrane to top edge of cant at wall and projection bases.
- I. Cut out fishmouths/side laps which are not completely sealed; patch. Replace all sheets which are not fully and continuously bonded.

### 3.03 PREPARATION

- A. Protection:
  - 1. Protect finished roof sections from damage due to roofing operations.
  - 2. Protect the building interior, contents and building occupants from all hazards associated with the Contractor's operations.
  - 3. Any damage to the interior of the building or its contents due to the Contractor's operations or to leaks during the Contractor's operations shall be corrected at the Contractor's expense to the satisfaction of the Owner.
  - 4. Any damage to the exterior of the building or any roof top equipment due to the Contractor's operations shall be corrected at the Contractor's expense to the satisfaction of the Owner.

5. No structural component of the building shall be over-stressed due to the Contractor's storage of equipment, supplies and/or job-related debris.
6. The Contractor is to provide any necessary protection to the entire, roof system to maintain water-tightness during the project duration, including existing roof areas not yet roofed. Any interior damages that occur to the buildings as a result of the Contractor's negligence (i.e., not repairing splits, foot-traffic areas, stocked material areas, failed or improper night-seal, etc.) shall become the Contractor's responsibility.
7. Contractor shall be responsible for protection of property during course of work. Lawns, shrubbery, paved areas, and building exterior shall be protected from damage. Repair damage at no additional cost to the Owner.
8. At start of each workday roof drains within daily work area shall be plugged. Plugs to be removed at end of each workday or before the arrival of inclement weather.
9. Preparation work shall be limited to those areas that can be covered with four (4) plies of installed roofing materials on same day and before arrival of inclement weather.
10. Arrange work sequence to avoid use of newly constructed roofing for storage, walking surface, and equipment movement. Move equipment and ground storage areas as work progresses.
11. At end of each working day, removal areas shall be sealed with water stops along edges to prevent water entry.
12. Provide clean plywood walkways and take other precautions required to prevent tracking of aggregate/debris from existing membrane into new work area where aggregate/debris pieces can be trapped within new roofing membrane. Contractor shall instruct and police workmen to ensure that aggregate/debris is not tracked into new work areas on workmen's shoes or equipment wheels. Discovery of entrapped aggregate/debris within new membrane is sufficient cause for its rejection.
13. All masonry and metal surfaces to receive flashing shall be primed with asphalt primer. Metal flanges shall be primed both sides, set in mastic over the completed roofing plies, nailed three (3) inches on-center, staggered to blocking, and stripped in with two (2) plies of trilaminated reinforced roofing ply sheets set in uniform layers asphalt mastic.
14. All items penetrating the membrane shall be flashed and sealed watertight to the membrane as detailed on the drawings or as required by the roofing system manufacturer, if not detailed.
15. Remove all debris from finished roof and dispose of it legally.

### 3.04 ROOF SYSTEM APPLICATION

- A. Onto properly-adhered thermal insulation assembly, install four (4) plies of trilaminate, reinforced roofing ply sheets adhered in cold-process adhesive. Adhesive coverage rate: 2.0 gal per 100 sq/ft, interply.
- B. Use 9, 18, 27, and 36 inch starter plies to start and finish roof membrane along roof edges and termination's. Overlap each succeeding ply twenty-sevens (27) inches. Place ply sheets to ensure water will flow over or parallel to; but, never against exposed edges.
- C. Lap ply sheet ends six (6) inches. Stagger end laps twelve (12) inches minimum.
- D. Apply cold process adhesive no more than fifty (50) feet ahead of each roll being embedded.
- E. Extend all plies to top edge of cant strips, across wood blocking and onto drain rims.
- F. Broom all plies to ensure complete and continuous seal and contact between adhesive and ply sheets. Broom ends, edges and laps without wrinkles, fish mouths, or blisters. Do not walk on plies until adhesives have set.
- G. Roofing ply shall never touch roofing ply, even at roof edges, laps, tapered edge strips, and cants.
- H. Cut out fish mouths/side laps which are not completely sealed; patch. Replace all sheets that are not fully and continuously bonded.
- I. Overlap previous day's work twenty-seven (27) inches (minimum).

### 3.05 FLASHINGS

- A. General flashing requirements:
  - 1. Elastomeric Flashing:
    - a. Adhere elastomeric flashing sheet completely to flashing surface, cant, and roofing with solvent-free, elastomeric adhesive.
    - b. Ensure complete bond and continuity without wrinkles or voids. Lap sheeting ends four (4) inches. Adhere laps with solvent-free, elastomeric adhesive.
    - c. Elastomeric sheeting width: Sufficient to extend at least six (6) inches beyond toe of cant onto new roof.
    - d. Seal vertical and horizontal of sheeting with fiberglass reinforcing membrane embedded into solvent-free, elastomeric base flashing adhesive. Top dress laps with same material.
  - 2. Lead-flanges (Two-Ply Stripping):

- a. Set lead-flange in asphalt mastic. Prime lead flange prior to sealing into roof surface.
  - b. Seal lead flange with two (2) layers of fiberglass reinforcing mesh embedded between alternate applications of asphalt mastic. Extend first ply four (4) inches beyond flange; second ply two (2) inches beyond first ply.
- B. At perimeter:
  1. Extend roofing across wood blocking at perimeter.
  2. Prior to setting and mechanically fastening flanges of new aluminum flashing, trowel 1/4-inch uniformly thick layer of asphalt mastic to roofing surface receiving metal flange. Prime all aluminum materials which are come in-contact with the new roof system.
  3. Fabricate new flashing to properly engage continuous cleat assembly and other contours at perimeter.
- C. At vent pipe penetrations:
  1. Wedge plumbing vent tight against deck.
  2. Apply 1/16 inch uniformly thick layer of asphalt mastic to surface receiving metal flange.
  3. Fabricate and install plumbing vent flashing from lead coated copper with soldered lead flange. Lead flange: Four (4) inches wide minimum; extend completely around periphery of vent flashing. Set lead flange into mastic. Neatly dress lead flange with wood block.
  4. Prime lead flange with asphalt primer.
    - a. Fabricate and install integral lead coated copper cap flashing.
  5. Install two (2) ply stripping described in general flashing section.
- D. At roof drains:
  1. Remove existing drain bowl and related hardware.
  2. Install new roof drain and ensure that drain body is installed flush to roof decking.
  3. Install new roofing system onto drain rim.
  4. Apply 1/16 inch uniformly thick layer of asphalt mastic to surface receiving lead flashing.
  5. Set single piece lead flashing in mastic centered over drain; extend lead six inches beyond drain rim. Neatly dress lead with wood block.



6. Clamp flashing collar to drain in bed of mastic.
7. Neatly cut lead within drain at rim; remove.
8. Prime lead with asphalt primer.
9. Install two (2) courses of fiberglass mesh embedded in alternate applications of asphalt mastic over primed lead.
10. Seal/plug drain to prevent water entry into building interior until service connection is completed.
11. Provide service connection prior to anticipated rainfall.

### 3.06 COLD-PROCESS FLOODCOAT & AGGREGATE SURFACING APPLICATION

#### A. Gravel Surfacing:

1. Prior to application of surface treatment system, the Contractor shall inspect the roof with the Full-Time Inspector and the Owner.
2. Over entire roof surface apply a uniform and continuous flood coat of cold process adhesive.
  - a. Floodcoat coverage rate: Five (5) gallons per 100 sq. ft.
3. Immediately broadcast minimum six hundred (600) lbs. (min.) of new, clean roofing gravel per one hundred (100) sq. ft. Cover floodcoat material completely.

### 3.07 ADJUSTMENTS AND CLEANING

#### A. Repair of deficiencies:

1. Installation of details noted as deficient during Final Inspection must be repaired and corrected by applicator, and made ready for re-inspection, within five (5) working days.

#### B. Clean-up:

1. Immediately upon job completion, roof membrane and flashing surfaces shall be cleaned of debris.
2. Clean roof surface and grounds of all debris.

END OF SECTION

## SECTION 076000

### FLASHINGS AND SHEET METAL

#### PART 1 - GENERAL

##### 1.01 GENERAL REQUIREMENTS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS, which are hereby made a part of this Section of the Specifications.
- B. Examine all other Sections of the Specifications for requirements which affect work of this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under Contract.
- D. It is the intent of the Specifications and the Drawings to require that the equipment to be furnished complete in every respect, and that this Contractor shall provide all equipment needed and usually furnished in connection with such systems to provide a complete installation. Equipment, materials, and articles incorporated in the work shall be new and of the best grade of their respective kinds.

##### 1.02 WORK TO BE PERFORMED

- A. Furnish and install metal flashings required to complete the roofing application according to details and specified herein. This includes but is not limited to the following:
  - 1. Remove and replace all existing metal flashings, including all parapet cap, through wall flashings, and all other metal flashings as indicated herein and on the Drawings with new zinc coated copper materials of such design and fabrication as detailed, or otherwise to match the existing and to suit the intended use.
  - 2. Install new red-copper plumbing-vent sleeve flashings and slip-flashings at existing masonry throughwall counterflashings.
  - 3. **Alternate No. 1** = Change TWF Detail to Termination Bar Detail, see Drawings.
  - 4. Install new soft-lead base-flashings at rising walls where flashing-heights do not provide six (8) inches of clearance above the final roof surface.
- B. The drawings indicate and show limits of construction for this project. The specifications specify material and work requirements for this project. Both are complementary to each other and both shall be followed to complete the work.
- C. Alternates: Alternates are identified in Detail A2 on Drawing Sheet A-502 Roof Details. See Section 010300 - Alternates

### 1.03 RELATED WORK UNDER OTHER SECTIONS

- A. The following items of related work are specified and included in other Sections of the Specifications:
  - 1. Section 020700 – Demolition
  - 2. Section 072200 – Roof Insulation
  - 3. Section 075100 – Built-Up Roofing

### 1.04 SUBMITTALS

- A. Submit complete shop drawings of all sheet metal flashing and trim in accordance with the provisions of SECTION 01300 - SUBMITTALS in GENERAL REQUIREMENTS, including but not limited to:
  - 1. Perimeter fascia and extender sections.
  - 2. Slip-flashing detail at existing masonry throughwall counterflashings.
- B. Do not commence fabrication of any work or begin installation until approval has been obtained from the Owner.

### 1.05 PROJECT CONDITIONS

- A. Work shall be performed only during dry weather and applied to dry surfaces with all materials entirely free of moisture.

### 1.06 CODES AND STANDARDS

- A. Except as modified by the requirements of other governing codes and by this specification, work shall conform to the provisions and recommendations of the following codes and standards:
  - 1. All copper work shall be in accordance with the latest published literature of Revere Copper Company (Copper & Common Sense).
  - 2. Metal installation shall be in accordance with the Architectural Sheet Metal Manual published by the Sheet Metal and Air Conditioning Contractor National Association, Inc. (SMACNA)

### 1.07 QUALITY ASSURANCE

- A. All personnel concerned with the shop fabrication and field installation of sheet metal work must be qualified sheet metal journeymen who may be assisted by sheet metal apprentices qualifying for their journeyman status. The foreman of the crew must have at least five years experience in roofing sheet metal work.

## PART 2 - PRODUCTS

### 2.01 MATERIALS

- A. Four (4) lb. sheet lead for roof drain flashings, low-height base-flashings and other miscellaneous conditions.
- B. Sixteen (16) oz. red-copper for plumbing-vents and slip-flashings at existing masonry through-wall counterflashings.
- C. Solder for lead coated copper shall be 60% block tin and 40% pig lead conforming to ASTM Specification B32, Sn 40.
- D. Flux shall be non-acid type flux manufactured specifically for use with lead coated sheet copper.
- E. Sixteen (16) oz. zinc-coated-copper for parapet, and cap flashings at transition and sleepers under condenser, and for through-wall flashings.
- F. Twenty (20) oz. zinc-coated-copper for hook strips, clips, cleats, and cover plates.

### 2.02 FASTENERS

- A. For attaching sheet metal to masonry, use zinc coated fasteners of 3/16" diameter with mushroom head hit anchors.
- B. For attaching sheet metal to wood, use 3/8" diameter head, 12 ga. copper annular ring of sufficient length to provide 1" embedment into the substrate or the membrane manufacturer's approved fastener.
- C. For attaching termination bar/metal to masonry, use 3/16" x 2" zinc plated flat head screw type masonry fastener.
- D. To prevent corrosion, the indicated fastener materials shall be used with the following sheet metals:

<u>Sheet Metal</u>	<u>Nails</u>	<u>Screws</u>	<u>Rivets</u>
Aluminum	Alum./Zinc	Alum./Zinc	Alum./Zinc
Copper	Copper	Bronze	Copper
Stainless Steel	Stain. Steel	Stain. Steel	Stain. Steel

- E. Provide neoprene gasket to isolate dissimilar materials.

## PART 3 - EXECUTION

### 3.01 WORKMANSHIP

- A. Workmanship for sheet metal shall be as follows:
1. Surfaces to be covered with sheet metal shall be free from defects of every description and clean of dirt and other foreign matter before sheet metal work is started.
  2. Lines, arises and angles shall be sharp and true. Plane surfaces shall be free from waves and buckles. Joints and seams in plain surfaces shall be avoided as far as possible.
  3. Sheet metal work exposed to the weather shall be permanently watertight and weather tight, with suitable provisions made for free expansion and contraction without causing leaks.
  4. Exposed edges shall be doubled back 1/2 inch in such a manner as to conceal them and provide stiffness.
  5. No nails shall be exposed on the face of the finished work except as approved by the Owner or except as directed herein.
  6. Solder all lock seams at pipe vent and rail posts sleeves.
- B. The Contractor agrees to guarantee all metal flashings permitted to be reused, the same as new construction under the Contract.

### 3.02 INSTALLATION (GENERAL)

- A. Install metal flashing in accordance with manufacturer's recommendations.
- B. Finish work to be free from water leakage under all weather conditions.
- C. Sheet metal panel lines, brakes, and angles are to be sharp and true, and surfaces free from objectionable wave, warp, or buckle. Fold exposed edges of sheet metal back 1/2 inch to form an inside hem.
- D. Install electrolytic insulation or coating materials between dissimilar metals. Avoid to the greatest extent practical, using dissimilar metals in contact with each other.
- E. All exposed new sheet metal work shall be cleaned at completion of installation. Grease and oil films, handling marks, contamination from steel wool, fitting and drilling debris shall be removed and the work scrubbed clean. All new exposed metal surfaces shall be free of dents, creases, waves, scratch marks, and solder or weld marks. Daily cleanup

and removal from the site of all shavings, clippings, shearing, rivets, fasteners, and whatever other debris resulting from these operations are required.

- F. Proceed with flashing work concurrently to membrane installation to prevent water intrusion into the roof assembly.
- G. Fasteners exposed to weather shall utilize neoprene washers between the fastener head and the metal flashing.
- H. Prime all exposed sheet metal surfaces that come into contact with new built-up roofing and flashing.

### 3.03 PARAPET CAP

- A. Shop-fabricate fascia details to ensure that no single-piece provides a face-width greater than six (6) inches. All face-widths wider than six (6) inches requires the installation of separate, cleated extender pieces. Notched and/or cross-broken components will not be accepted.
- B. Install continuous hook strip and clips fastened eight (8) inches on center at the perimeter. Hook the parapet cap onto the hook strip and set the primed nailing flange in a full bed of asphalt mastic. Fasten the nailing flange to the wood nailer at three (3) inches on center using a staggered fastening pattern. Hook the clips onto the parapet cap and set the primed nailing flange in a full bed of asphalt mastic. Fasten the nailing flange to the wood nailer at three (3) inches on center using a staggered fastening pattern.
- C. Maximum length of parapet cap either side of corners shall be five (5) feet. Inside and outside corners shall be formed from a single piece of stock that is miter cut and continuously sealed. Provide 1" high standing seams fastened with cleats and sealed with mastic and sealant.
- D. All joints in the parapet cap, counterflashing and transition cap flashing metal shall be covered with a 4" wide metal cover plate of matching material. Cover plates to be covered with an additional ply of fiberglass mesh and trowel grade mastic.

END OF SECTION